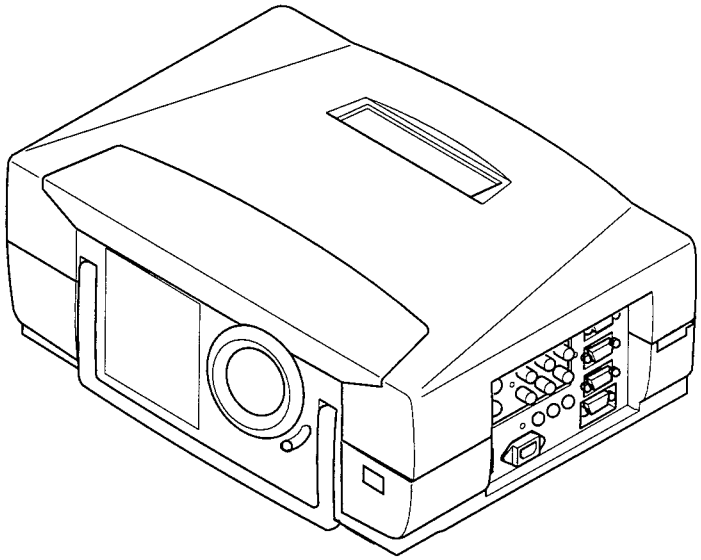
HITACHI

YK | No. 0490E

SERVICE MANUAL

CP-X955W
CP-X955E



Caution

Be sure to read this manual before servicing. To assure safety from fire, electric shock, injury, harmful radiation and materials, various measures are provided in this Hitachi liquid crystal projector. Be sure to read cautionary items described in the manual to maintain safety before servicing.

Service Warning

1. When replace the lamp, to avoid burns to your fingers. The lamp becomes too hot.
2. Never touch the lamp bulb with a finger or anything else. Never drop it or give it a shock. They may cause bursting of the bulb.
3. This projector is provided with a high voltage circuit for the lamp. Do not touch the electric parts of power unit (main), when turn on the projector.
4. Do not touch the exhaust fan, during operation.
5. The LCD module ass'y is likely to be damaged. If replacing to the LCD module ass'y, do not hold the FPC of the LCD module ass'y.

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SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

Liquid Crystal Projector

October 1998 Image & Information Media Systems Division Yokohama Operation

1. Features

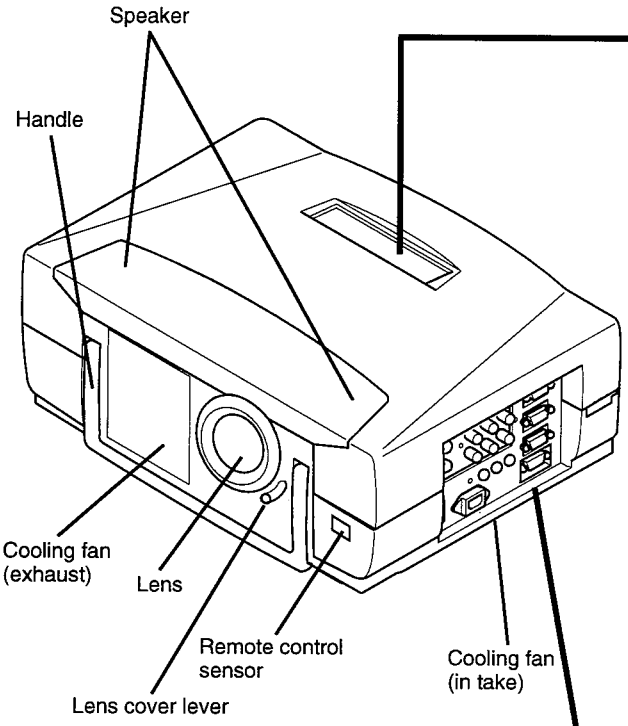
- 1.3" polysilicon liquid crystal panel
- 150W UHB lamp
- Video input compatible with NTSC/PAL/SECAM video signals
- RGB input compatible with IBM® PCs, Macintosh® and NEC® PC98 computer signals
- Power zoom and power focus
- 2 VIDEO IN systems, 2 RGB IN systems, and 1 RGB OUT system
- RS232C communication
- Mouse emulation

2. Specifications

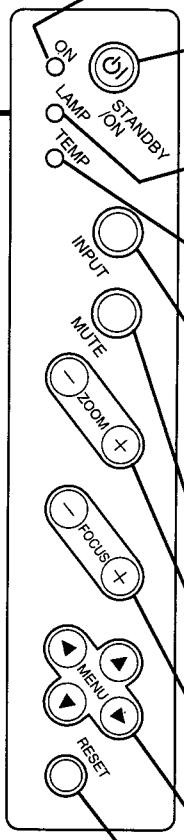
Liquid crystal panel	Drive system	TFT active matrix
	Panel size	1.3inches
	Number of pixels	1024 (H) x 768 (V)
Lamp		UHB lamp 150W
Video input	System	NTSC , 4.43NTSC , PAL , M-PAL , or SECAM
	Level	Composite 1.0Vp-p (75Ω termination) Y/C Y : 1.0Vp-p (75Ω termination) C : 0.286Vp-p (NTSC burst signal, 75Ω termination) 0.3Vp-p (PAL/SECAM burst signal, 75Ω termination)
RGB input / output	Video signal	Analog RGB input 0.7Vp-p (75Ω termination)
	Sync signal	H/V separate or H/V composite, TTL level
Audio	Input	200mVrms, 20kΩ or less
	Output	0~200mVrms, 1kΩ
Speaker output		2W + 2W (stereo)
Power supply		AC100~120V/2.9A,AC220~240V/1.3A (50/60Hz)
Power consumption		250W
Dimensions		404 (W) x 162 (H) x 312 (D) mm
Weight		8kg
Temperature range		Operation : 0~35°C Storage : -20~60°C
Accessories		Remote control ·····1 Batteries LR6 ·····2 Power cord ·····3 Stereo mini cable ·····1 MAC adapter ·····1 RGB signal cable ·····1 Video/Audio cable ·····1 Mouse cable ·····3 S-Video cable ·····1

3. Names of each part

●Main unit



●Operation section



ON indicator
This blinks in the standby mode and lights in the operation mode.

STANDBY/ON button
Power ON/OFF button.
OFF sets the unit in standby mode.

LAMP indicator
This lights when the lamp does not light.

TEMP indicator
This lights when temperature inside the projector is too high.

INPUT button
To select the input source.

RGB1 → RGB2 → VIDEO1 → VIDEO2

MUTE button

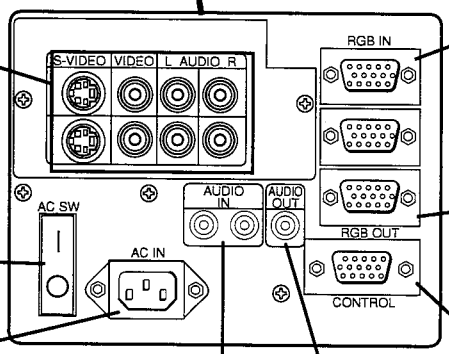
ZOOM button
Adjusts picture size.

FOCUS button
Adjusts focus.

MENU button
Picture adjustments.

RESET button
Resets unit to factory settings.

●Input terminal section



VIDEO input terminal
S-VIDEO input terminal
Mini DIN-4pin connector (1/2)
VIDEO input terminal
RCA Jack (1/2)
AUDIO L/R input terminal
RCA Jack (1/2)

MAIN POWER switch
Main power ON/OFF switch.
| . ON
○ : OFF

AC IN socket
Connect the provided power cord.

RGB input terminal
RGB input terminal
D-sub 15pin shrink terminal (1/2)
AUDIO input terminal
Stereo mini jack (1/2)

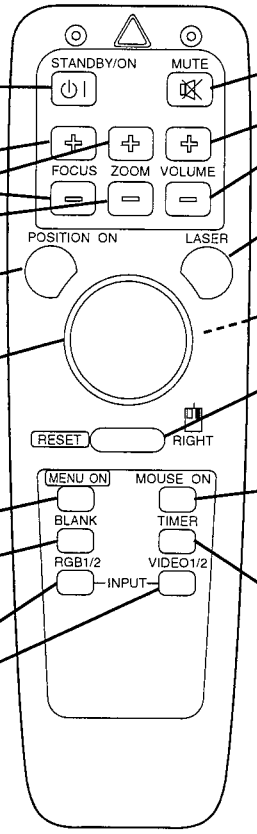
RGB output terminal
RGB output terminal
D-sub 15pin shrink terminal
AUDIO output terminal (RGB/VIDEO)
Stereo mini jack

CONTROL terminal
D-sub 15pin shrink terminal

AUDIO input terminal
Stereo mini jack (1/2)

AUDIO output terminal (RGB/VIDEO)
Stereo mini jack

●Remote control transmitter



STANDBY / ON button
Power ON/OFF button.
OFF sets the unit in standby mode.

FOCUS button
Adjusts focus.

ZOOM button
Adjusts picture size.

POSITION button
Moves the picture by DISK PAD after presed the POSITION button.

DISK PAD
When displays the on-screen menus, selects or adjusts the menu items.
When removes the on-screen menus,

MENU ON button
Displays the on-screen menus.

BLANK ON button
The blank screen is displayed by pressing BLANK.
And the blank screenwill be revealed by pressing BLANK again.

INPUT SELECT button
Selects the input source.

MUTE button

VOLUME button
Adjusts volume.

LASER on

MOUSE LEFT button

RESET / RIGHT button
When displays the on-screen menus, resets the menu item to factory settings.
When removes the on-screen menus, works as right quick button.

MOUSE ON button
Mouse starts
- Menu off
  Back light of MENU OFF button off,
- Position off
  Back light of POSITION ON button off
- Blank off

TIMER ON / OFF button
Displays or removes the time setting menu item TIMER.
When the blank screen is displayed, TIMER can not be displayed.

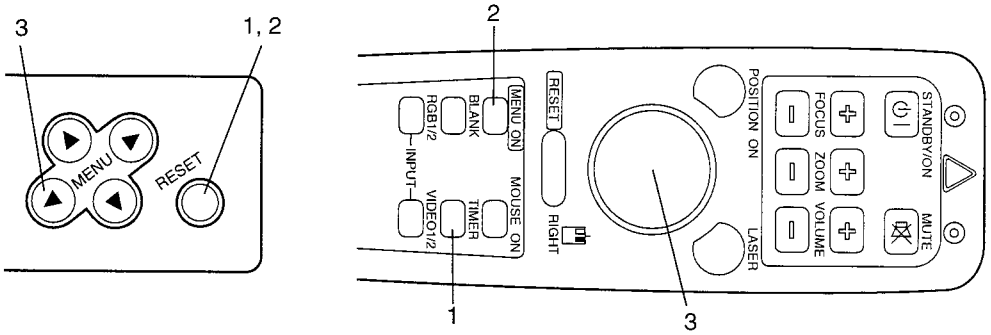
Function for service

Function	Operation
Displayed the operating time of the lamp	Press the RESET button of the projector or the TIMER button of the remote control, for 3 seconds.
Reset the operating time of the lamp	Press the RESET button of the projector or the remote control, for 3 seconds. (During be displayed the operating time of the lamp.)
Displayed the operating time of the projector	Press the MUTE button of the projector or the remote control, for 3 seconds. (During be displayed the operating time of the lamp.)

When replacing the lamp, Reset the operating time of lamp.

Reset the lamp timer :

Please carry out the following operation within 10 minutes from power on, if you replaced the lamp after 2,000 hours.



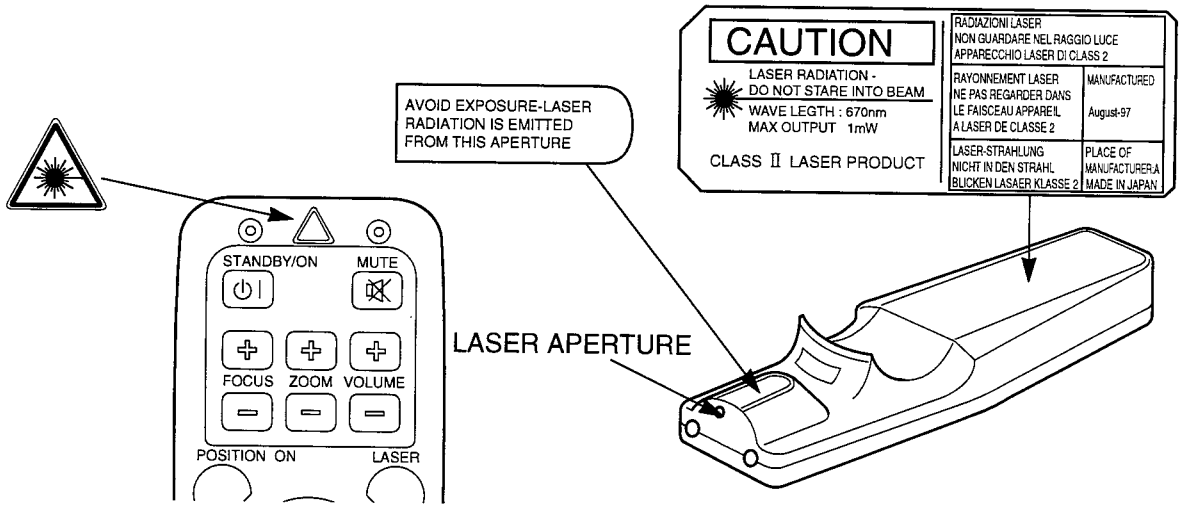
1) Press the RESET button on projector for 3 seconds or remote control TIMER button for 3 seconds and display the total lamp used time.
2) Press the RESET button on projector or remote control MENU ON button during displaying the lamp used time.
3) Select the "0" on the screen using the MENU (◄) button or DISK PAD.

LAMP 1501 hr

LAMP 1501 □→0 ■CANCEL

Caution Cautions on use of the laser pointer.

- The laser pointer on the remote control unit radiates the laser beam from the laser aperture.
- Do not state directly into the laser aperture or radiate the laser beam to order persons as the laser emitted is a class II laser and it could damage you vision , etc.
  Especially pay attention if children are present.
- The three under labels are caution labels for the laser beam.



Message table

On-screen display

The following messages are displayed on the screen.

CHANGE THE LAMP "CALL A MAINTENANCE PERSON"	Lamp has 1,900 hours on it and may need to be changed.
"CHANGE THE LAMP" "CALL A MINTENANCE PERSON." "THE POWER WILL TURN OFF AFTER 20 Hr."	Lamp has 1,980 hours on it. See P.4 "Reset the lamp timer"
Blinking of "CHANGE THE LAMP"	When the lamp has 2,000 hours or more on it, the message will blink, and the power will turns off after 10 minutes.
NO INPUT IS DETECTED	Signal is not input.
SYNC IS OUT OF RANGE	The horizontal frequency of the input signal exceeds the range of the projector, it cannot be displayed.

Indicator display

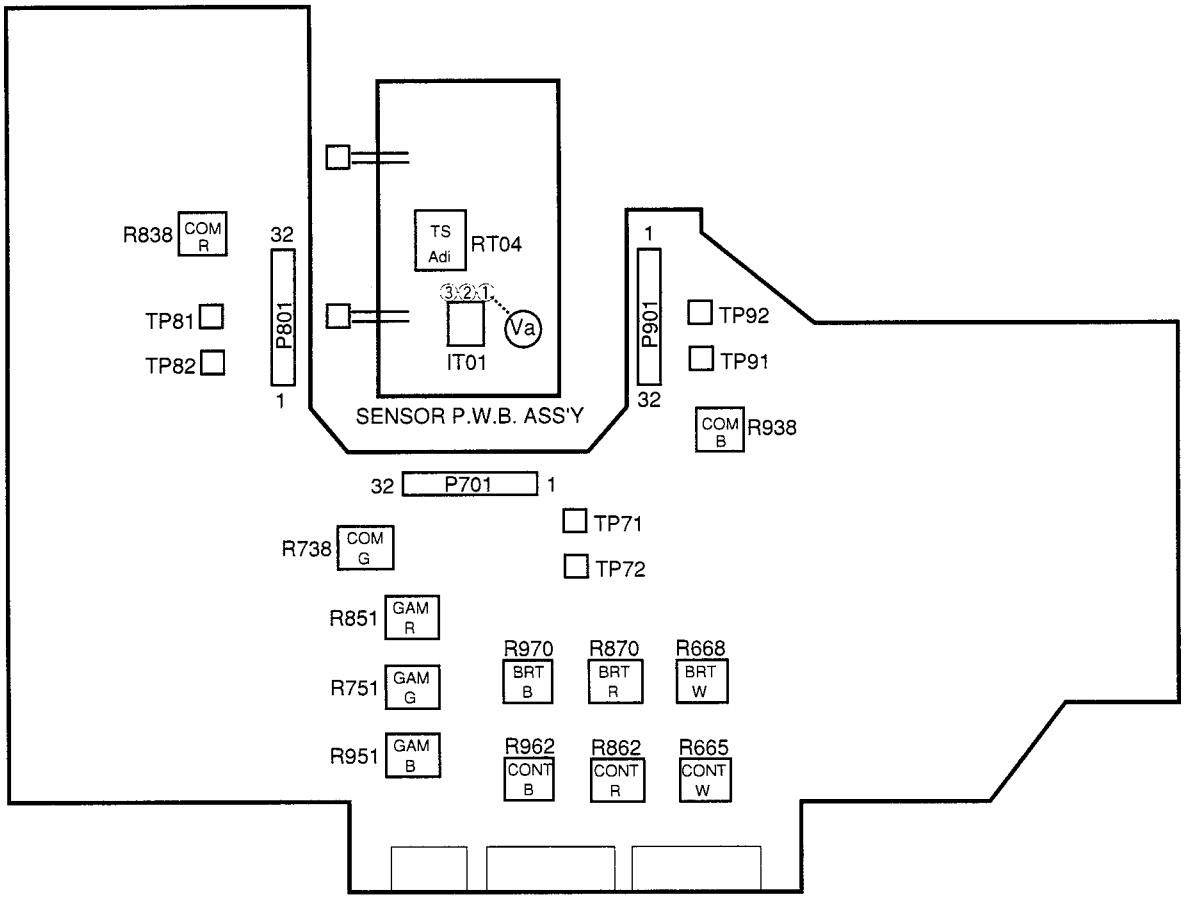
The ON indicator, LAMP indicator and TEMP indicator will light or blink in the following cases.

	Indicator status	Meaning	Remedy
ON indicator	Lights green	Standby mode	———
	Blinks green	During warming up	———
	Lights green	During operation	———
	Blinks green	During cooling down	———
LAMP indicator	Lights red	Lamp cannot light	Cool projector by power off for 20 minutes.
TEMP indicator	Lights red	Temperature inside too high	Correctly reinstall so as not to block ventilation holes.
	Blinks red	Cooling fan accidented	call a maintenance person.

*When the LAMP indicator lights, turn the power off. If the problem cannot be recovered, contact your dealer.

4. Adjustment

4 - 1 Position to be adjusted



4 - 2 White balance adjustment

Preparations for adjustment

①Apply heat-running for 10 minutes or more before adjustment.

②Project 40" size image with the "+" ZOOM button set to max.

Adjustment procedure

①Input 16 steps monochrome green at 0.7Vp-p with a timing signal at XGA VESA (60).

②Adjust R665 (W SUB CONTRAST) and R668 (W SUB BRIGHT) so that brightness of 16 steps is best, ...visual check.

③Input black pattern at 0.21Vp-p with a timing signal of XGA VESA (60).

④Adjust R870 (R SUB BRIGHT) and R970 (B SUB BRIGHT) so that the chromaticity at the center of the picture is X=0.30±0.01, Y=0.34±0.01 (Low-brightness white balance) using Minolta CL-100.

③Press the RESET button of the remote control transmitter to set the picture adjustment to NORMAL.

④Press the MENU button and select "N" of COLOR BAL.

⑤Input white pattern at 0.52Vp-p with a timing signal of XGA VESA (60).

⑥Adjust R862 (R SUB CONTRAST) and R962 (B SUB CONTRAST) so that the chromaticity at the center of the picture is X=0.30±0.01, Y=0.35±0.01 (Middle-brightness white balance) using Minolta CL-100.

⑦Repeat ③ to ⑥ and adjust low-brightness and middle-brightness white balance.

4 - 3 Convergence adjustment

Preparations for adjustment

①Apply heat-running for 10 minutes or more before adjustment.

②Input a cross-hatch signal to the RGB input terminal with a timing signal of XGA VESA (60).

③Project about a 40" size image and adjust H.PHASE so that the vertical lines of cross-hatch pattern are seen most clear.

④Loosen 2 screws ⓐ of both the R and B panel's metal fittings. (See Figs.4 - 1 and 4 - 2.)

(Note) Do not loosen screws ⓐ too much. If they are loosened too much, the convergence may drift when they are tightened.

(Note) Exclusive tools are required to adjust convergence.

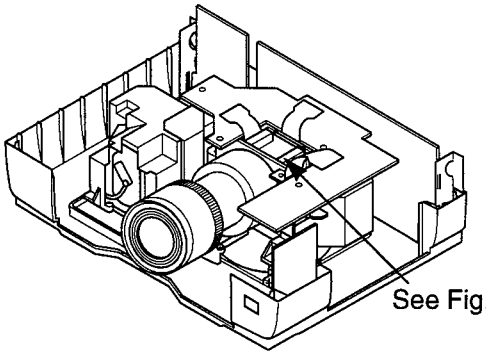


Fig.4 - 1

Adjustment procedure

①Regarding the G panel as standard, adjust the convergence at the picture center of the R panel using ⓑ for the vertical direction, ⓒ for the horizontal direction.

②Adjust the convergence at the edge of the picture using ⓓ .

③Then, regarding the G panel as standard, adjust the convergence of B panel in the same procedure as ① and ②.

④Repeat steps ① to ③ and adjust so that convergence of whole picture satisfy the following values.

	Adjustment value
Horizontal	±1dot
Vertical	±1dot

G is a standard

⑤Tighten 4 screws to fix panels.

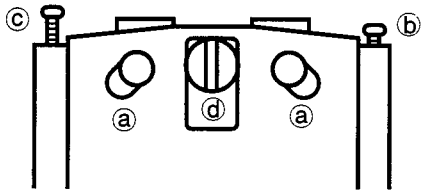


Fig.4 - 2

4 - 4 Sensor adjustment

Preparations for adjustment

①Apply heat-running for 10 minutes or more before adjustment.

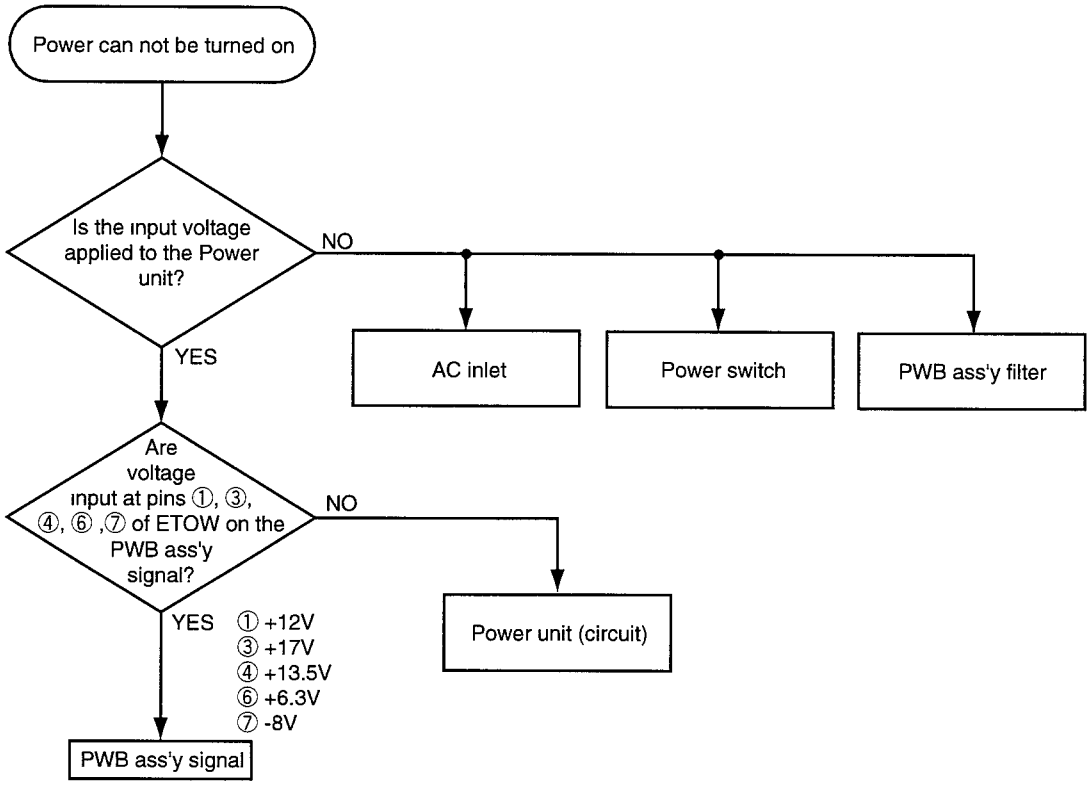
Adjustment procedure

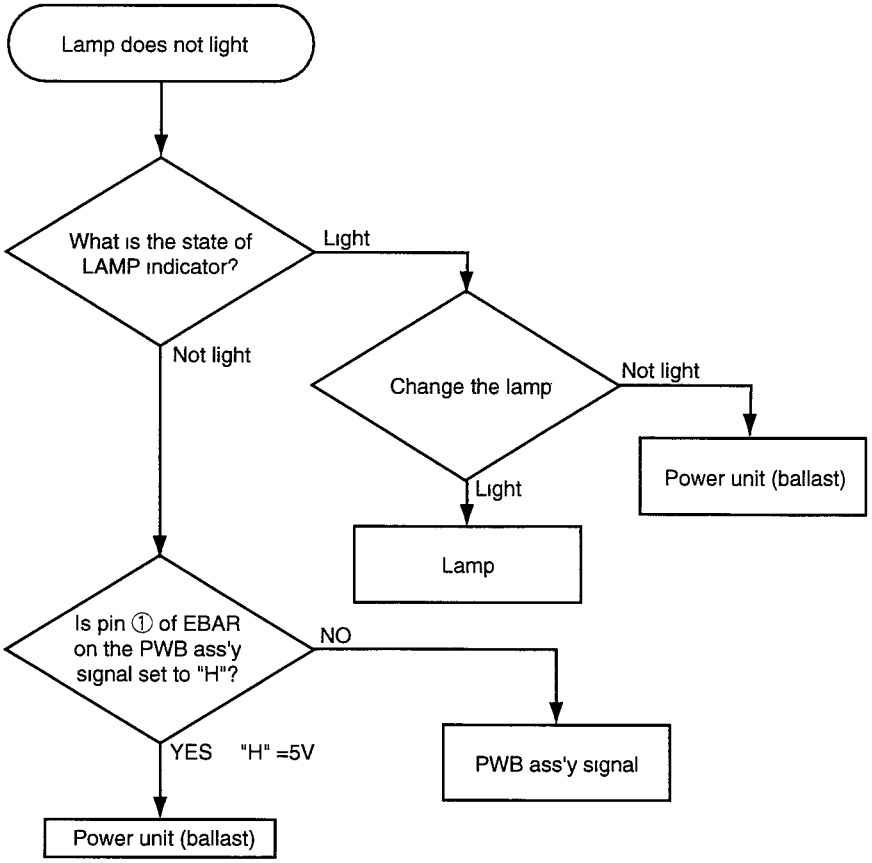
Adjust RT04 to get following values.

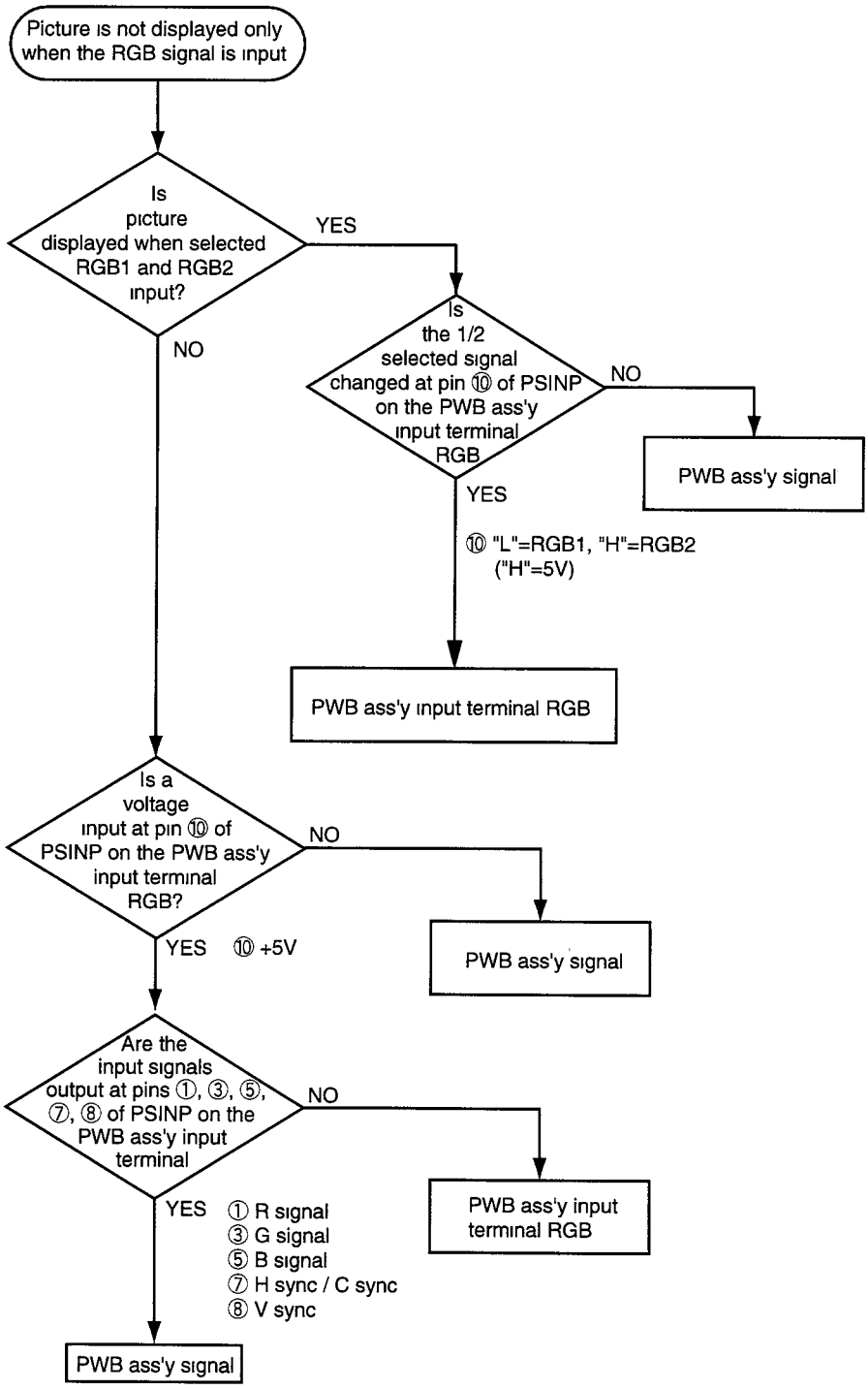
0.020 ± 0.002 [V]

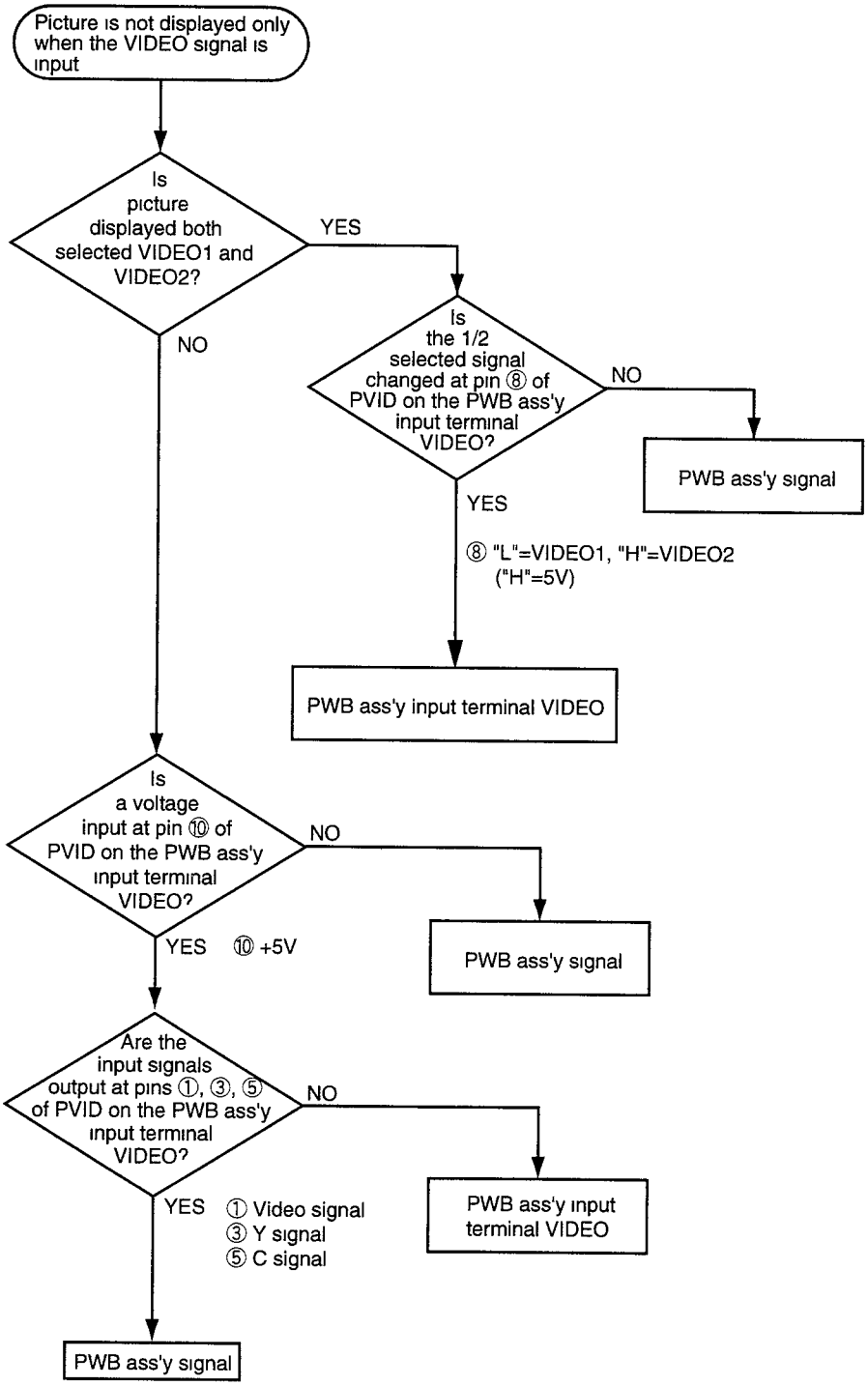
(Connect ⊕ side to TPI and ⊖ side to TP2 by digital meter.)

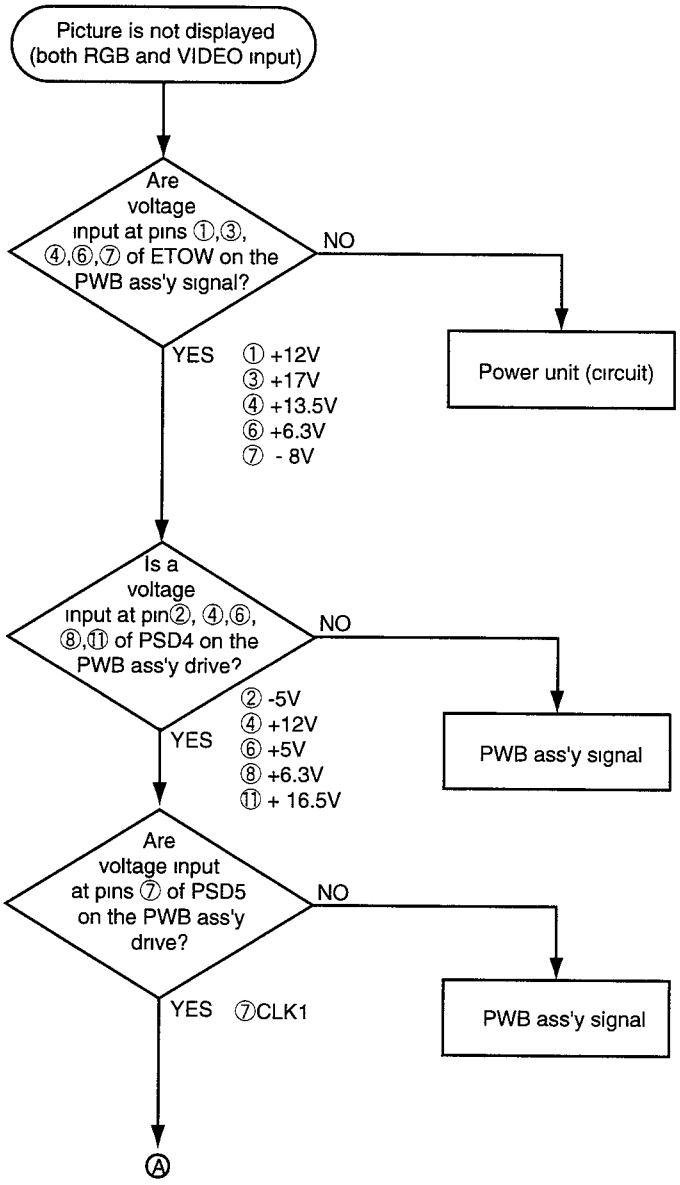
5. Troubleshooting

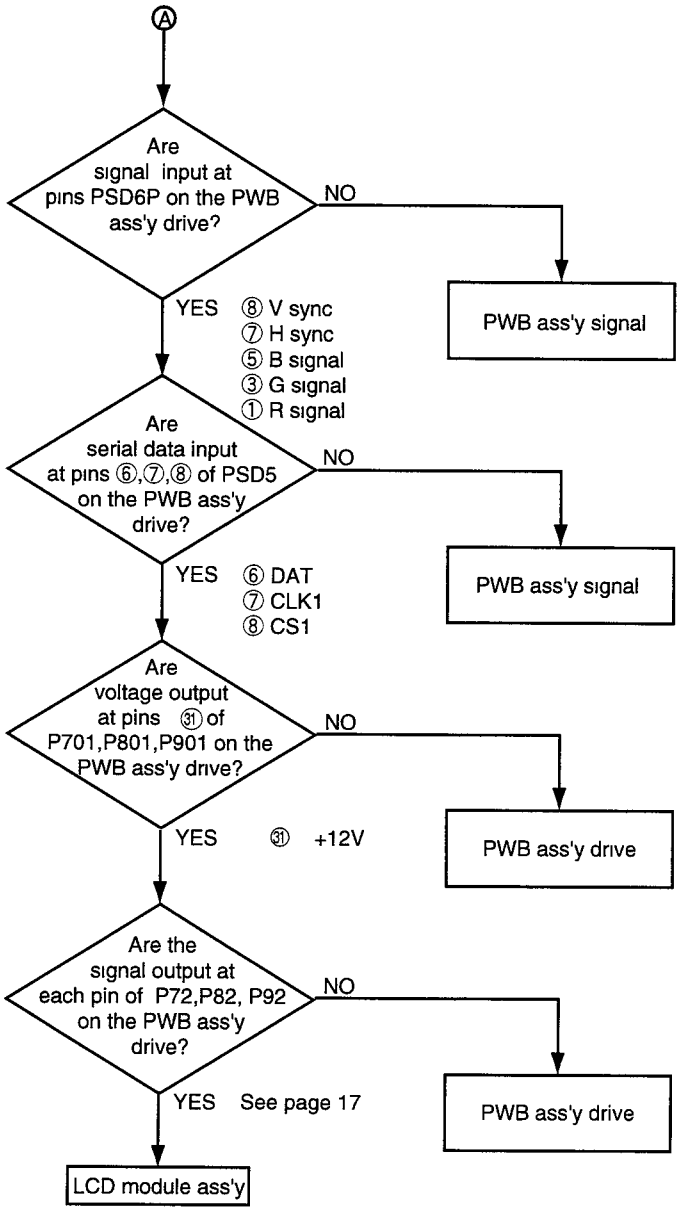


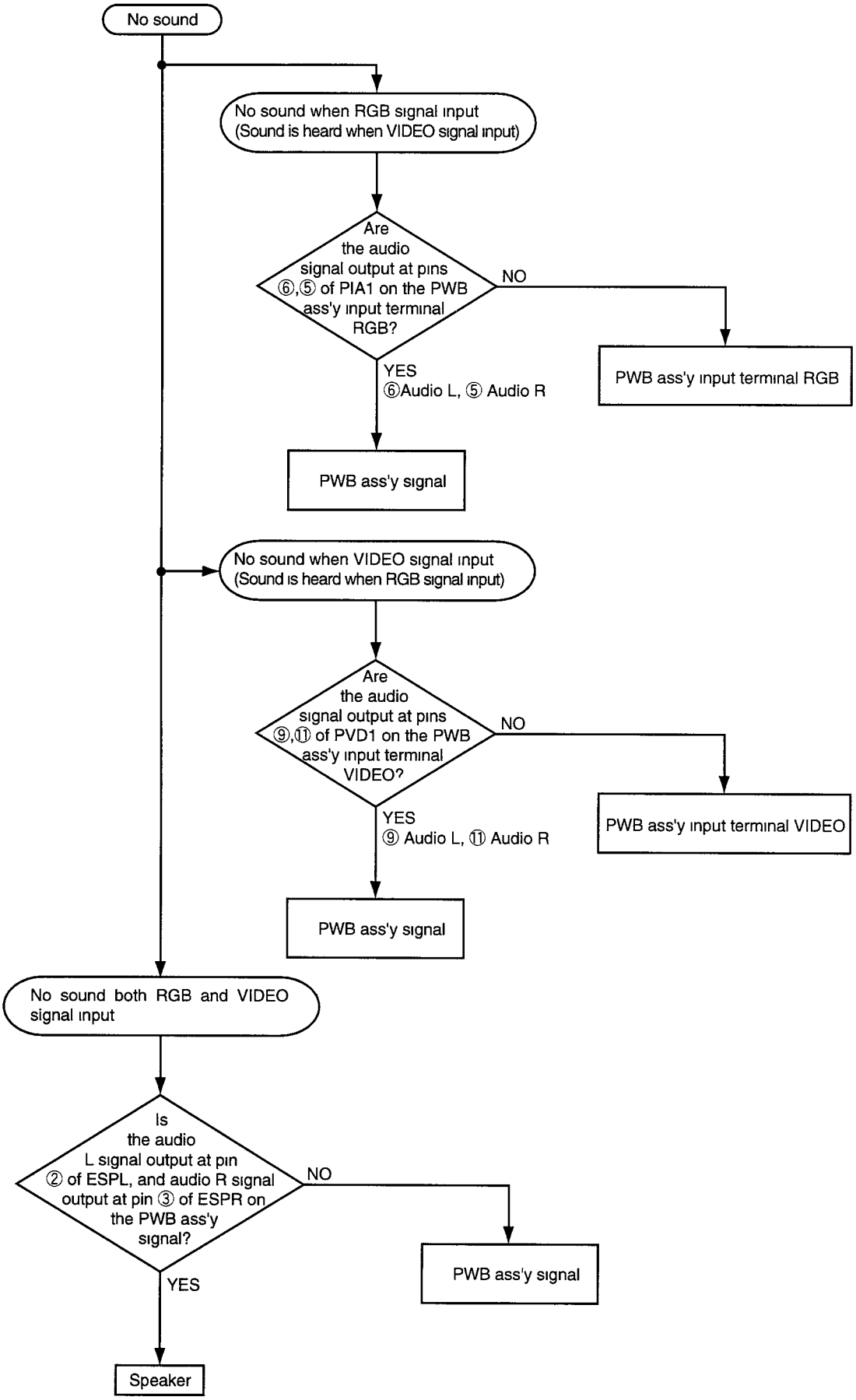


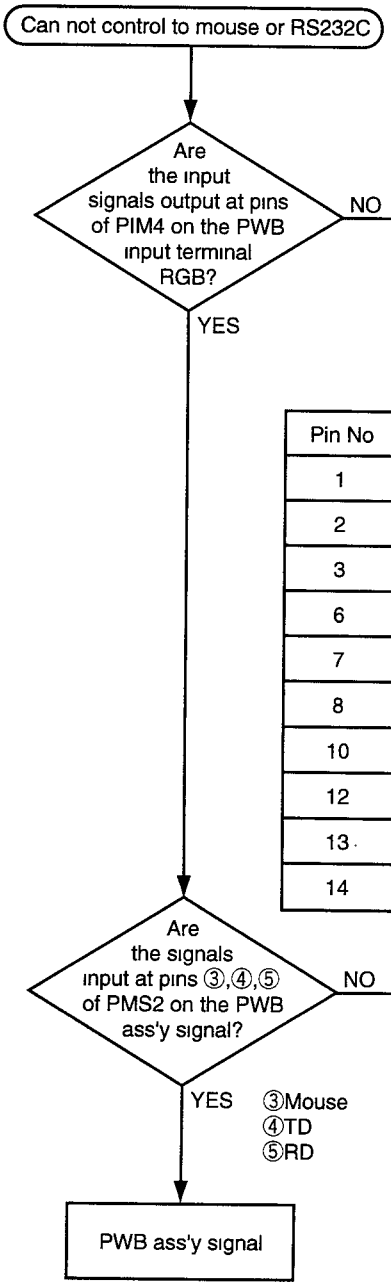

Picture is not displayed only when the RGB signal is input
Is picture displayed when selected RGB1 and RGB2 input?
YES
NO
Is the 1/2 selected signal changed at pin ⑩ of PSINP on the PWB ass'y input terminal RGB
NO
PWB ass'y signal
YES
⑩ "L"=RGB1, "H"=RGB2 ("H"=5V)
PWB ass'y input terminal RGB
Is a voltage input at pin ⑩ of PSINP on the PWB ass'y input terminal RGB?
NO
PWB ass'y signal
YES ⑩ +5V
Are the input signals output at pins ①, ③, ⑤, ⑦, ⑧ of PSINP on the PWB ass'y input terminal
NO
PWB ass'y input terminal RGB
YES
① R signal
③ G signal
⑤ B signal
⑦ H sync / C sync
⑧ V sync
PWB ass'y signal


Picture is not displayed only when the VIDEO signal is input
Is picture displayed both selected VIDEO1 and VIDEO2?
YES
NO
Is the 1/2 selected signal changed at pin ⑧ of PVID on the PWB ass'y input terminal VIDEO?
NO
PWB ass'y signal
YES
⑧ "L"=VIDEO1, "H"=VIDEO2 ("H"=5V)
PWB ass'y input terminal VIDEO
Is a voltage input at pin ⑩ of PVID on the PWB ass'y input terminal VIDEO?
NO
PWB ass'y signal
YES ⑩ +5V
Are the input signals output at pins ①, ③, ⑤ of PVID on the PWB ass'y input terminal VIDEO?
NO
PWB ass'y input terminal VIDEO
YES ① Video signal ③ Y signal ⑤ C signal
PWB ass'y signal


Picture is not displayed (both RGB and VIDEO input)
Are voltage input at pins ①,③, ④,⑥,⑦ of ETOW on the PWB ass'y signal?
NO
Power unit (circuit)
YES
① +12V
③ +17V
④ +13.5V
⑥ +6.3V
⑦ - 8V
Is a voltage input at pin②, ④,⑥, ⑧,⑪ of PSD4 on the PWB ass'y drive?
NO
PWB ass'y signal
YES
② -5V
④ +12V
⑥ +5V
⑧ +6.3V
⑪ + 16.5V
Are voltage input at pins ⑦ of PSD5 on the PWB ass'y drive?
NO
PWB ass'y signal
YES
⑦CLK1
Ⓐ


Ⓐ
Are signal input at pins PSD6P on the PWB ass'y drive?
NO
PWB ass'y signal
YES ⑧ V sync
⑦ H sync
⑤ B signal
③ G signal
① R signal
Are serial data input at pins ⑥,⑦,⑧ of PSD5 on the PWB ass'y drive?
NO
PWB ass'y signal
YES ⑥ DAT
⑦ CLK1
⑧ CS1
Are voltage output at pins ㉛ of P701,P801,P901 on the PWB ass'y drive?
NO
PWB ass'y drive
YES ㉛ +12V
Are the signal output at each pin of P72,P82, P92 on the PWB ass'y drive?
NO
PWB ass'y drive
YES See page 17
LCD module ass'y

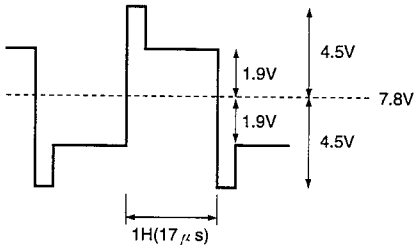

No sound
No sound when RGB signal input
(Sound is heard when VIDEO signal input)
Are the audio signal output at pins ⑥,⑤ of PIA1 on the PWB ass'y input terminal RGB?
NO
YES
⑥Audio L, ⑤ Audio R
PWB ass'y input terminal RGB
PWB ass'y signal
No sound when VIDEO signal input
(Sound is heard when RGB signal input)
Are the audio signal output at pins ⑨,⑪ of PVD1 on the PWB ass'y input terminal VIDEO?
NO
YES
⑨ Audio L, ⑪ Audio R
PWB ass'y input terminal VIDEO
PWB ass'y signal
No sound both RGB and VIDEO signal input
Is the audio L signal output at pin ② of ESPL, and audio R signal output at pin ③ of ESPR on the PWB ass'y signal?
NO
YES
PWB ass'y signal
Speaker


Can not control to mouse or RS232C
Are the input signals output at pins of PIM4 on the PWB input terminal RGB?
NO
YES
PWB ass'y input terminal RGB
Are the signals input at pins ③,④,⑤ of PMS2 on the PWB ass'y signal?
NO
YES
③Mouse
④TD
⑤RD
PWB ass'y mother
PWB ass'y signal

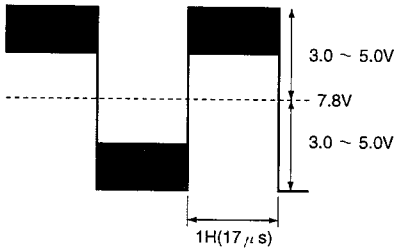
Pin No	RS232C	PS/2	ADB	Serial
1				TDM
2		CLK	SDATA	
3		DATA		
6		SELO	SEL0	SEL0
7		SEL1	SEL1	SEL1
8				READY
10	GND	GND	GND	GND
12			+5V	+5V
13	RDP			
14	TDP			

Signal waveforms of P501, P601 and P701 (Input signal is VGA3)

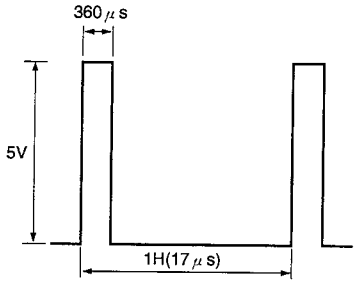
① PSIG (Uniformity Signal)



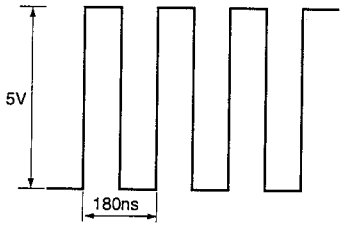
③~⑭ VIDEO SIGNAL



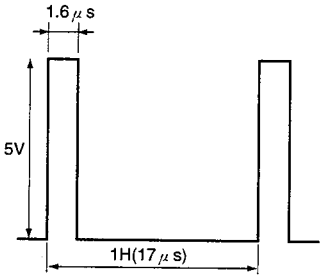
⑰ HST



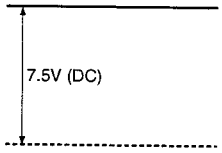
⑱,⑲ HCK1,HCK2



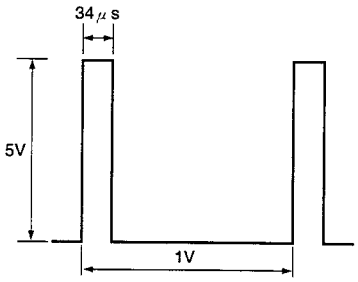
㉙ PCG



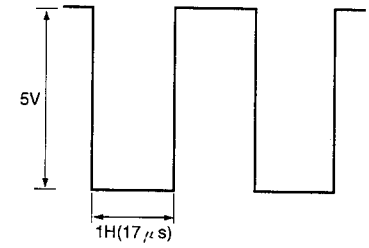
㉛ COM



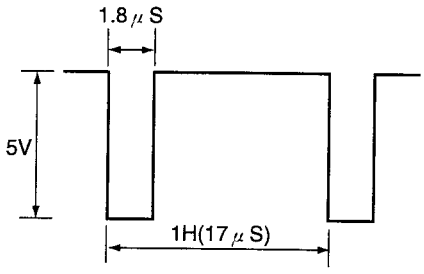
㉕ VST



㉔ VCK



㉔ ENB

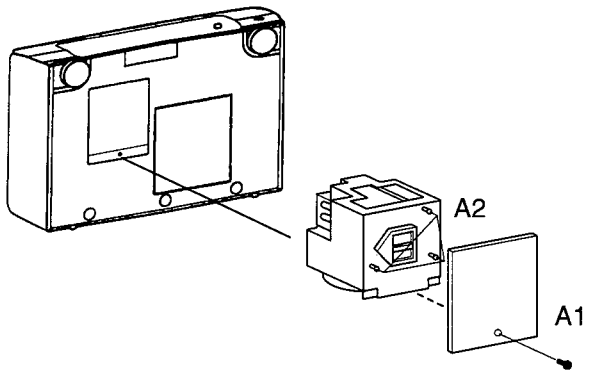


6. Service points

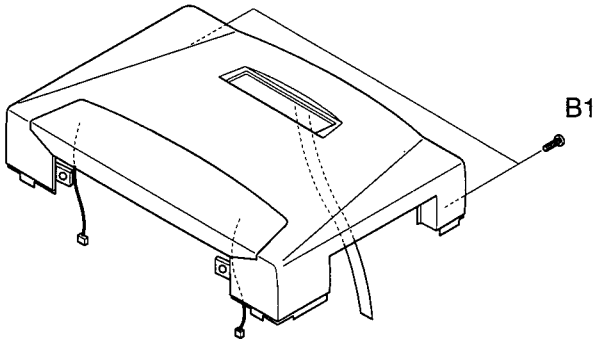
6 - 1 Removing the lamp

1. Loosen screw A1 and remove the lamp cover.
2. Loosen 3 screws A2 and remove the lamp.

Caution : After change the new lamp, tighten 3 screws A2. If 3 screws are loose, the unit may be broken by incomplete connection of the lamp.
Lamp becomes too hot. To avoid burns to your finger.
Turn the power off and let the projector cool.
After change the new lamp, reset the operating time of the lamp.



6 - 2 Removing the PWB ass'y drive, the lens prism unit, the LCD module ass'y, The front cover ass'y and exhaust fan, the handle (Fig. 6 - 2)

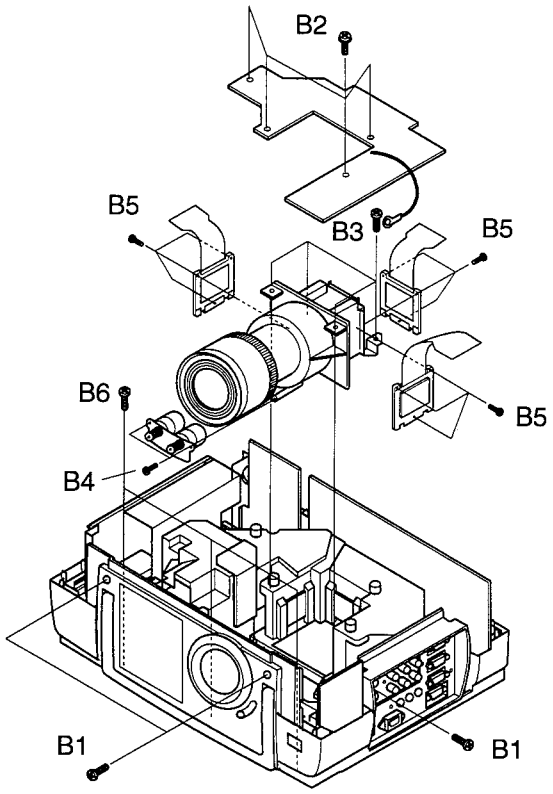


(1) Removing the PWB ass'y drive.
1. Remove 5 screws B1 and remove the upper case ass'y and disconnect the operation panel connector.
2. Remove 7 screws B0 and remove the upper shield case.
3. Disconnect 2 connectors for speaker from PWB ass'y signal.
4. Release the lock of the connector housing and disconnect the FPC of the LCD module ass'y.
5. Remove 4 screws B2 and disconnect 3 connectors and remove the PWB ass'y drive.

(2) Removing the lens prism unit.
1. Remove the PWB ass'y drive. (Refer to Item 6 - 2 (1).)
2. Disconnect 2 connectors for motor from the PWB ass'y signal.
3. Remove 4 screws B3 and remove the lens prism unit with DC motors.
4. Remove 2 screws B4 and remove the DC motor ass'y from lens prism unit.

(3) Remove the LCD module ass'y.
1. Remove the lens prism unit with DC motor. (Refer to steps 1 and 3 of Item 6 - 2 (2).)
2. Remove 3 screws B5 and remove the LCD module ass'y.

(4) Removing the front cover ass'y and exhaust fan.
1. Remove the lens prism unit with DC motor. (Refer to steps 1 to 3 of Item 6 - 2 (2).)
2. Remove 3 screws B6 and remove the front cover ass'y (with exhaust fan).
3 Disconnect connector for exhaust fan from PWB ass'y signal.
4 Remove 4 screws B7 and remove the exhaust fan.



(5) Removing the lens shutter unit.

1. Remove the front cover ass'y.
   (Refer to Item 6 - 2 (4).)
2. Remove 4 screws B8 and remove the lens shutter unit.

(6) Removing the handle.

1. Remove the front cover ass'y.
   (Refer to Item 6 - 2 (4).)
2. Poll out the stick and remove the handle.

6 - 3Removing Power unit, PWB ass'y signal, PWB ass'y input terminal.

(1) Removing the Power unit (ballast).

1. Remove the upper case ass'y. (Refer to step 1 to 2 of item 6 - 2 (1).)
2. Remove 2 screws C1 and disconnect the lamp connector.
3. Disconnect 4 connectors.
4. Remove 4 screws C2 and remove the power unit holder ass'y.

(2) Removing the power unit (circuit).

1. Remove the upper case ass'y.
   (Refer to step 1 to 2 of item 6 - 2 (1).)
2. Remove 1 screws C4 and remove the holder metal .
3. Remove screw C5 and remove the ground connection wire.
4. Disconnect 2 connectors and remove the power unit (circuit).

(3) Removing the PWB ass'y filter.

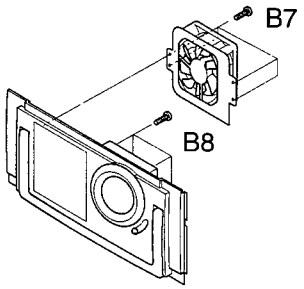
1. Remove the upper case ass'y.
   (Refer to steps 1 to 2 of item 6 - 2 (1).)
2. Disconnect 2 connectors and remove the PWB ass'y filter. < Refer to Fig.Remove the PWB ass'y Filter >

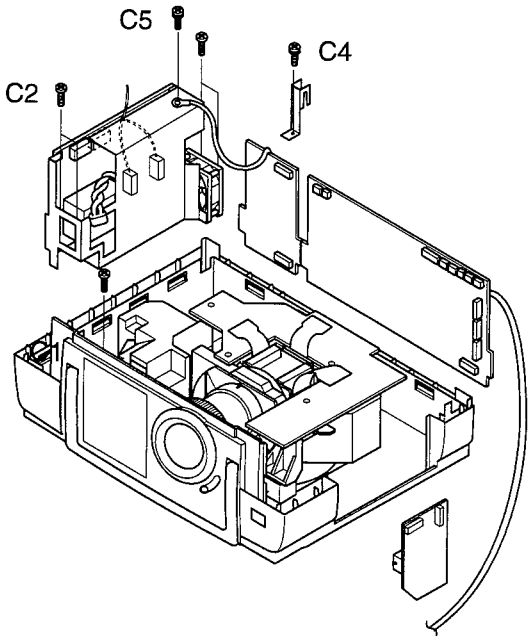
(4) Removing the PWB ass'y signal.

1. Remove the PWB ass'y drive.
   (Refer to step 1 to 2 item 6 - 2 (1).)
2. Disconnect all 8 connectors of PWB ass'y signal.
3. Remove screw C4 and remove the holder metal.
4. Remove screw C5 and remove the ground connection wire and remove the PWB ass'y signal.

(5) Removing the PWB ass'y input terminal video.

1. Remove the upper case ass'y.
   (Refer to step 1 to 2 item 6 - 2 (1).)
2. Remove 2 screws C6 and remove the connector and remove the PWB ass'y input terminal video.





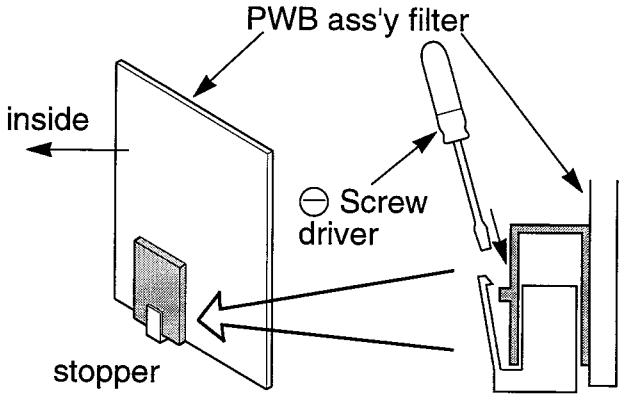
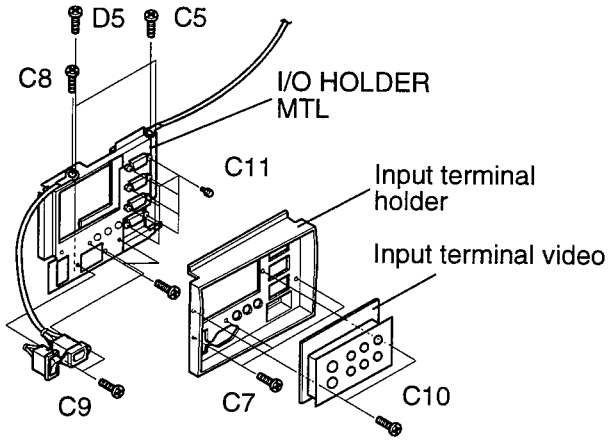


Fig.Remove the PWB ass'y Filter



(6) Removing the PWB ass'y input terminal RGB.

1. Remove the PWB ass'y signal.
   (Refer to item 6 - 3 (4).)
2. Remove the PWB ass'y input terminal video.
   (Refer to item 6 - 3 (5).)
3. Remove 3 screws C7 and remove I/O terminal holder.
4. Remove screw C8 and remove the ground connction wire from AC inlet.
5. Remove 2 screws C9 and remove the AC inlet holder.
6. Remove 2 screws D5 and remove I/O HOLDER MTL.
7. Remove 8 screws C11 and 2 screws C10 remove the PWB ass'y input terminal RGB.

6 - 4 Removing the dichroic optics unit, intake fan, PWB ass'y mother.

(1) Removing the dichroic optics unit.

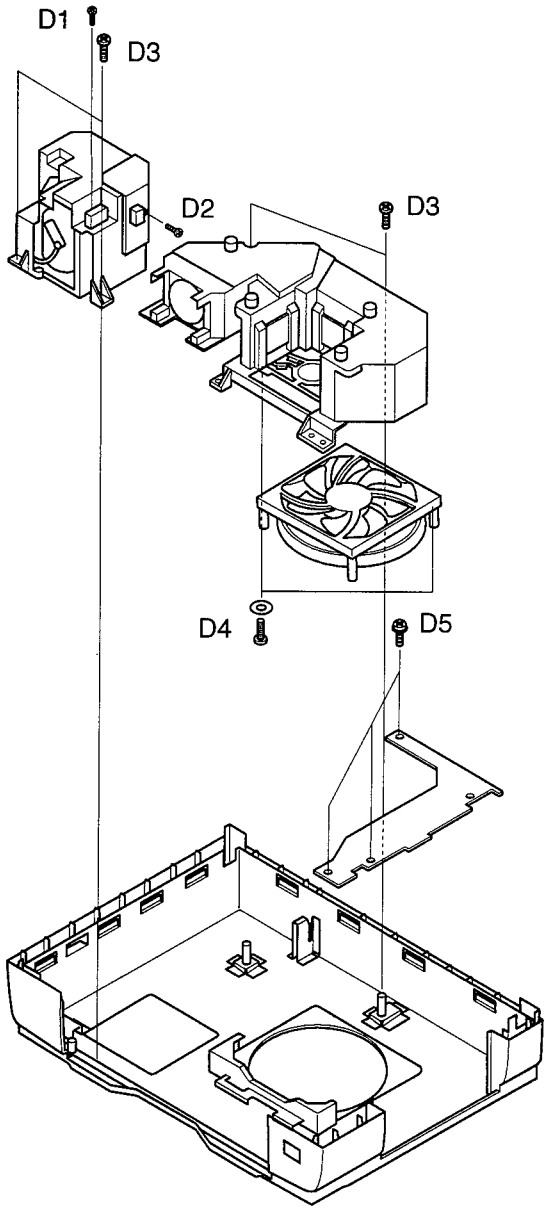
1. Remove the lens prism unit.
   (Refer to step 1 to 3 of itmen 6 - 2 (2).)
2. Remove screw D1 and remove the micro switch.
3. Remove screw D2 and remove the thermal sensor switch.
4. Remove 4 screws D3 and remove the dichroic optics unit.

(2) Removing the intake fan.

1. Remove the dichroic optics unit.
   (Refer to item 6 - 4 (1).)
2. Disconnect connector from the PWB ass'y signal.
3. Remove 4 screws D4 and remove the intake fan.

(3) Removing the PWB ass'y mother.

1. Remove the power unit (filter).
   (Refer to item 6 - 3 (3).)
2. Remove the PWB ass'y signal.
   (Refer to item 6 - 3 (4).)
3. Remove the PWB ass'y input terminal video.
   (Refer to item 6 - 3 (5).)
4. Remove the PWB ass'y input terminal RGB.
   (Refer to item 6 - 3 (6).)
5. Remove 3 screws D5 and remove the PWB ass'y moter.



7. Dust cleaning

(1) Check dust condition

1. Show the white picture on the screen (whose size is 60") to check dust condition.
2. If dust condition is not good, should be clean the LCD module ass'y and the Air filter.

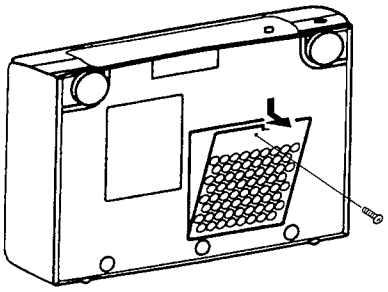
(2) Clean the LCD module ass'y

1. Remove the LCD module ass'y. (Refer Item 6 - 2 (3)).
2. Blow the air on both side of the LCD module by dust blower or air gun.
3. If dusts are still on, wipe it with the special glass cleaning cloth.
4. Fix the LCD module, and check dust condition.
5. If it is OK, adjust convergence. (see 4 - 3)

(3) Clean the air filter

1. Remove the air filter from the bottom of the projector. (see Fig.7 - 1)
2. Wipe the air filter with a cloth moistend with water or neutral detergent, and wipe with a dry cloth.

(1) Remove 1 screws.



(2) Remove the air filter.

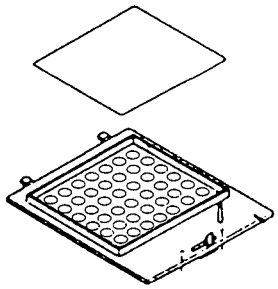
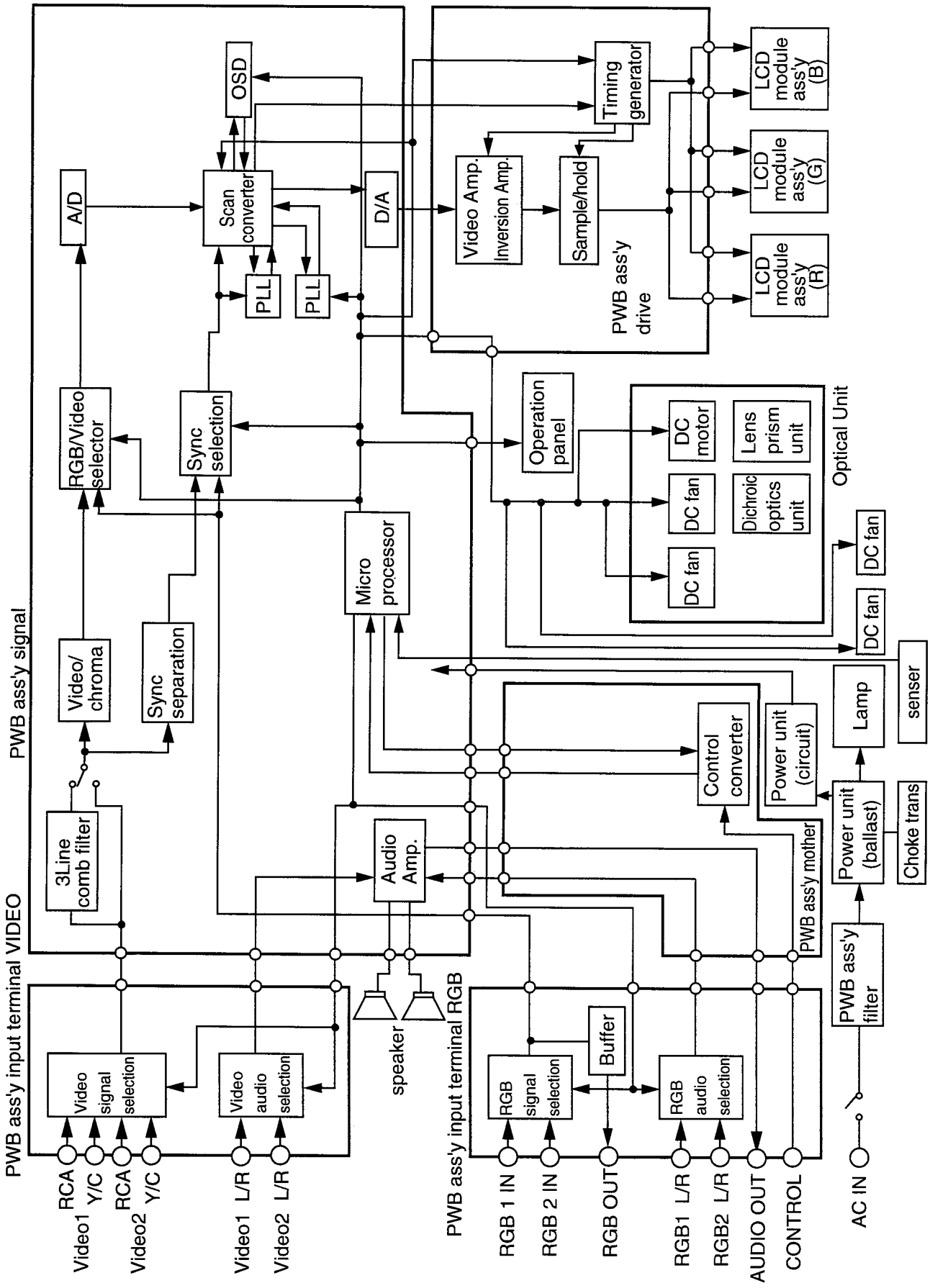


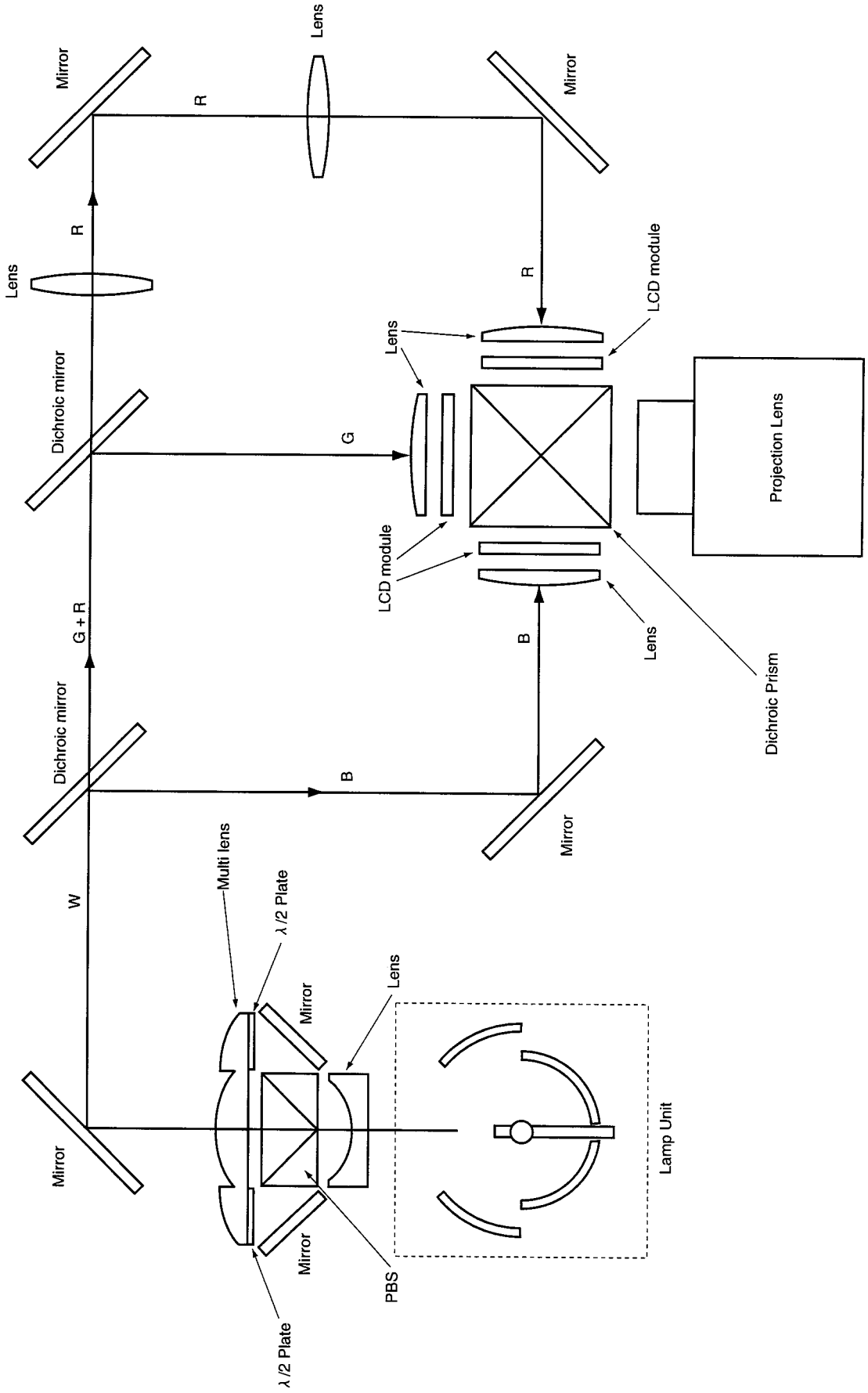
Fig.7 - 1

8. Block diagram

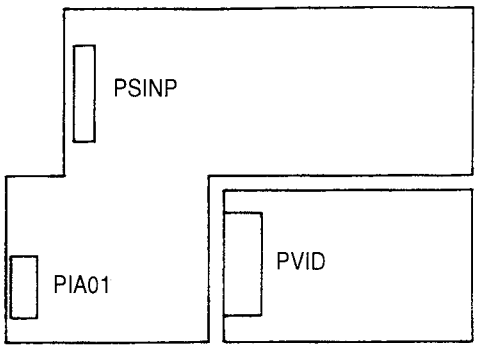
8.1 Circuit diagram

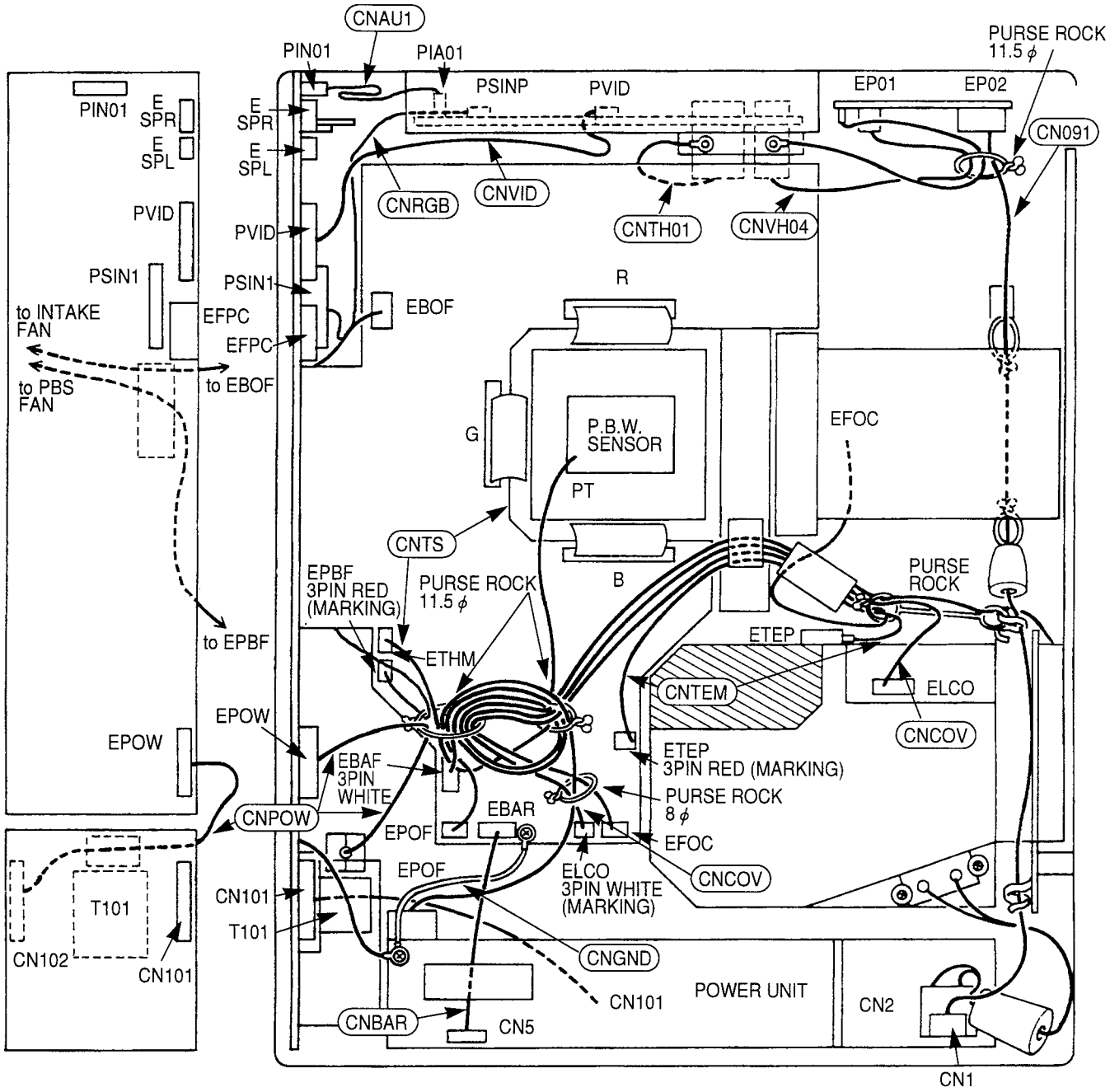


8.2 Layout of optical system

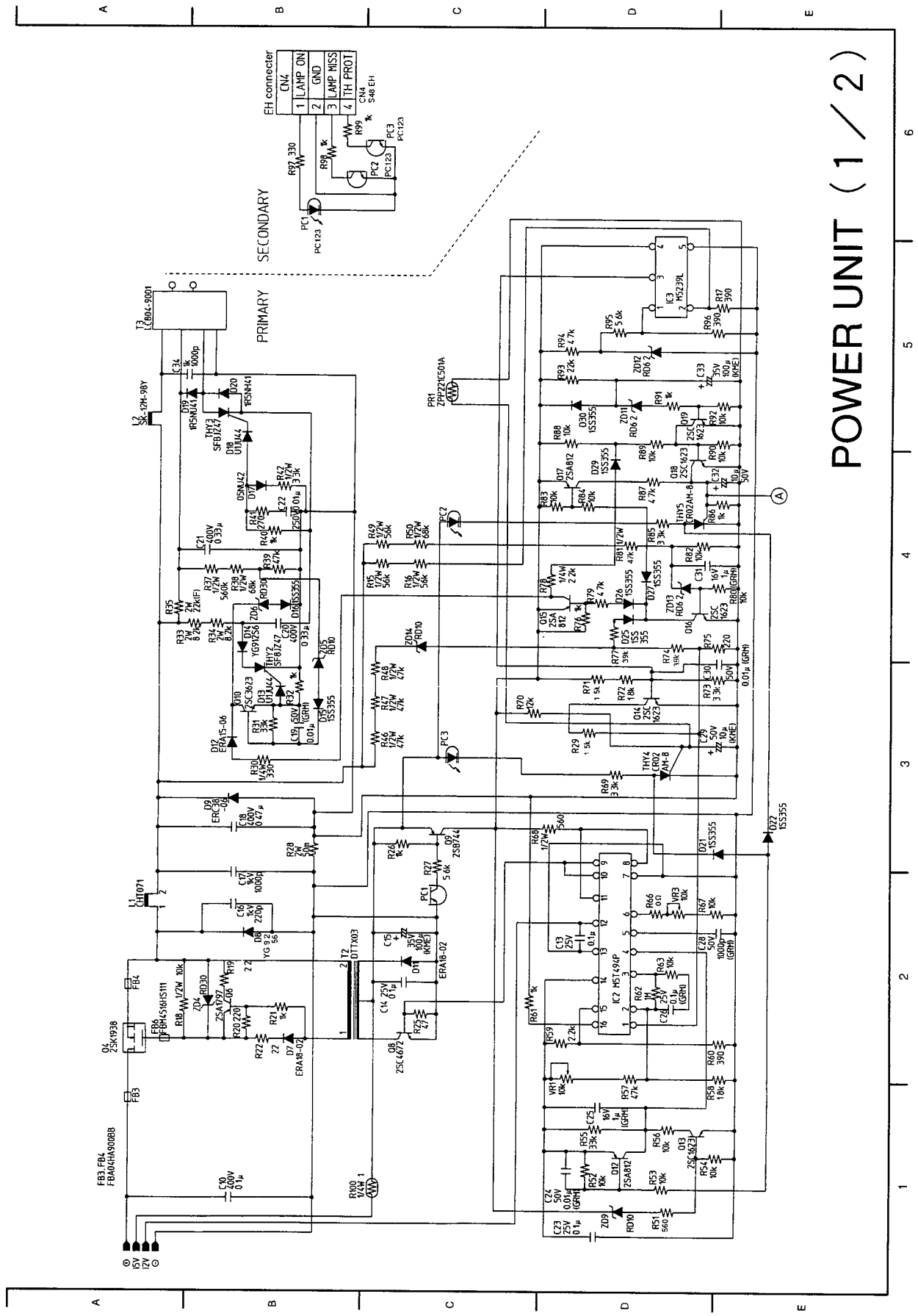


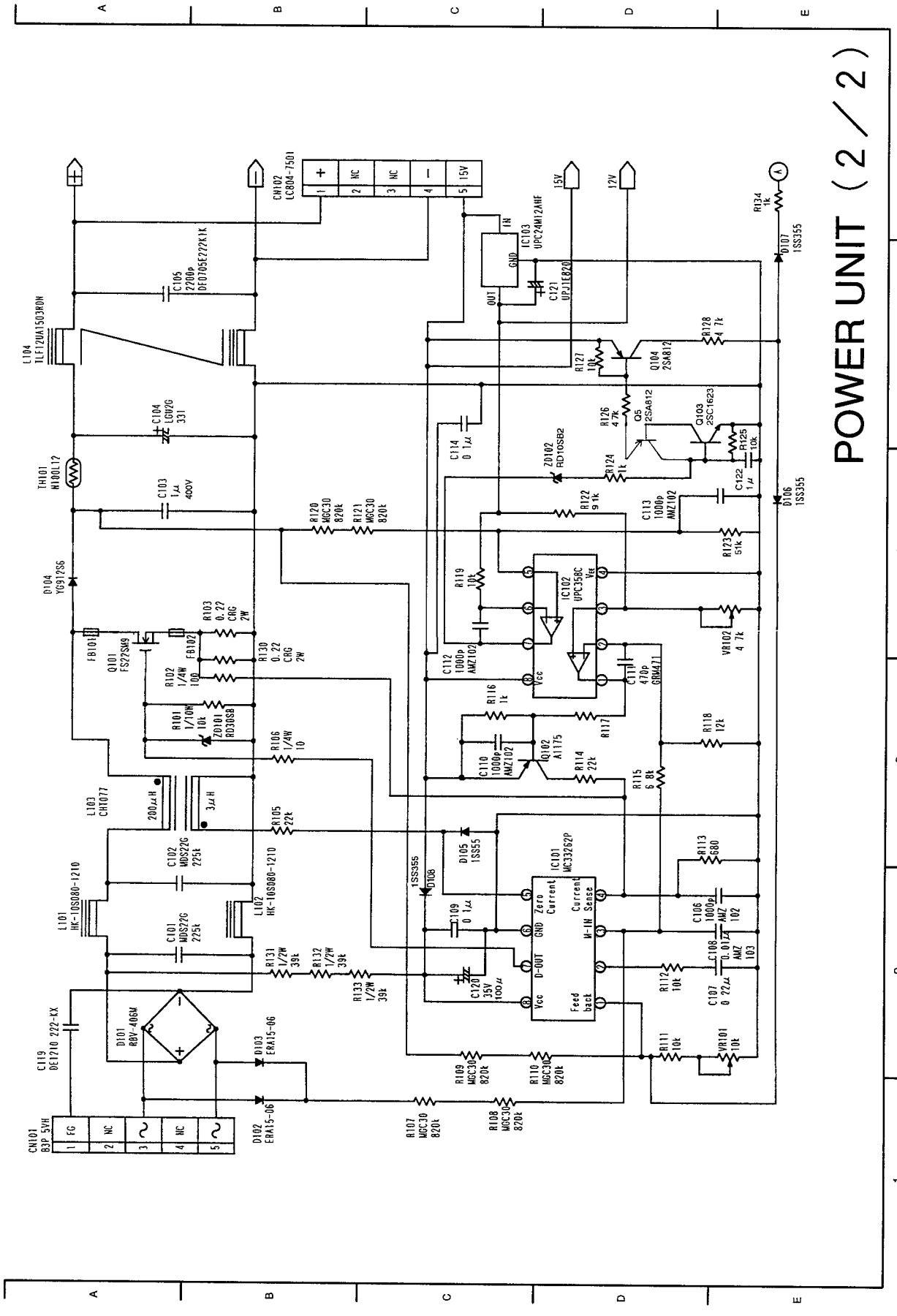
9. Wiring diagram

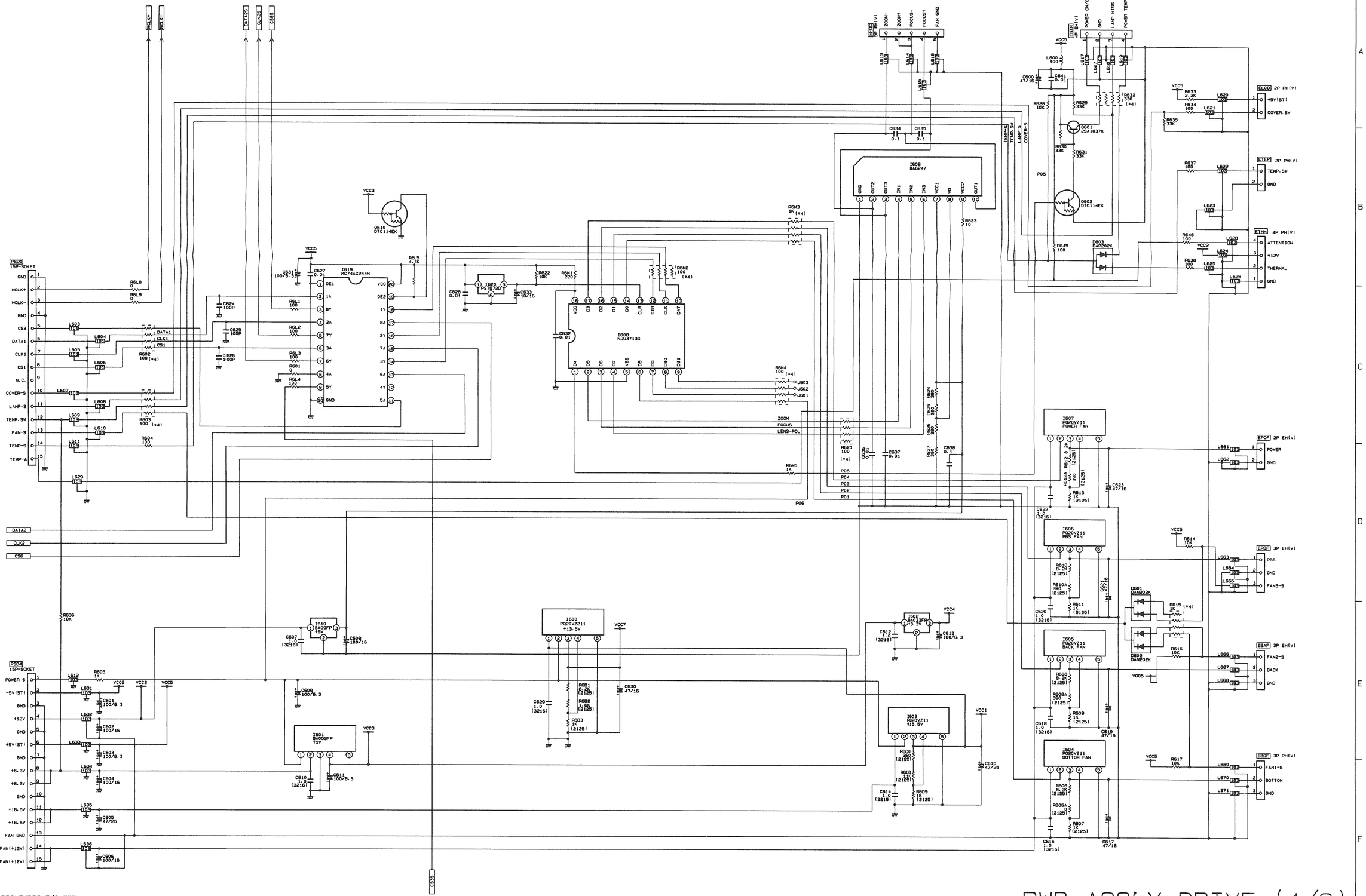




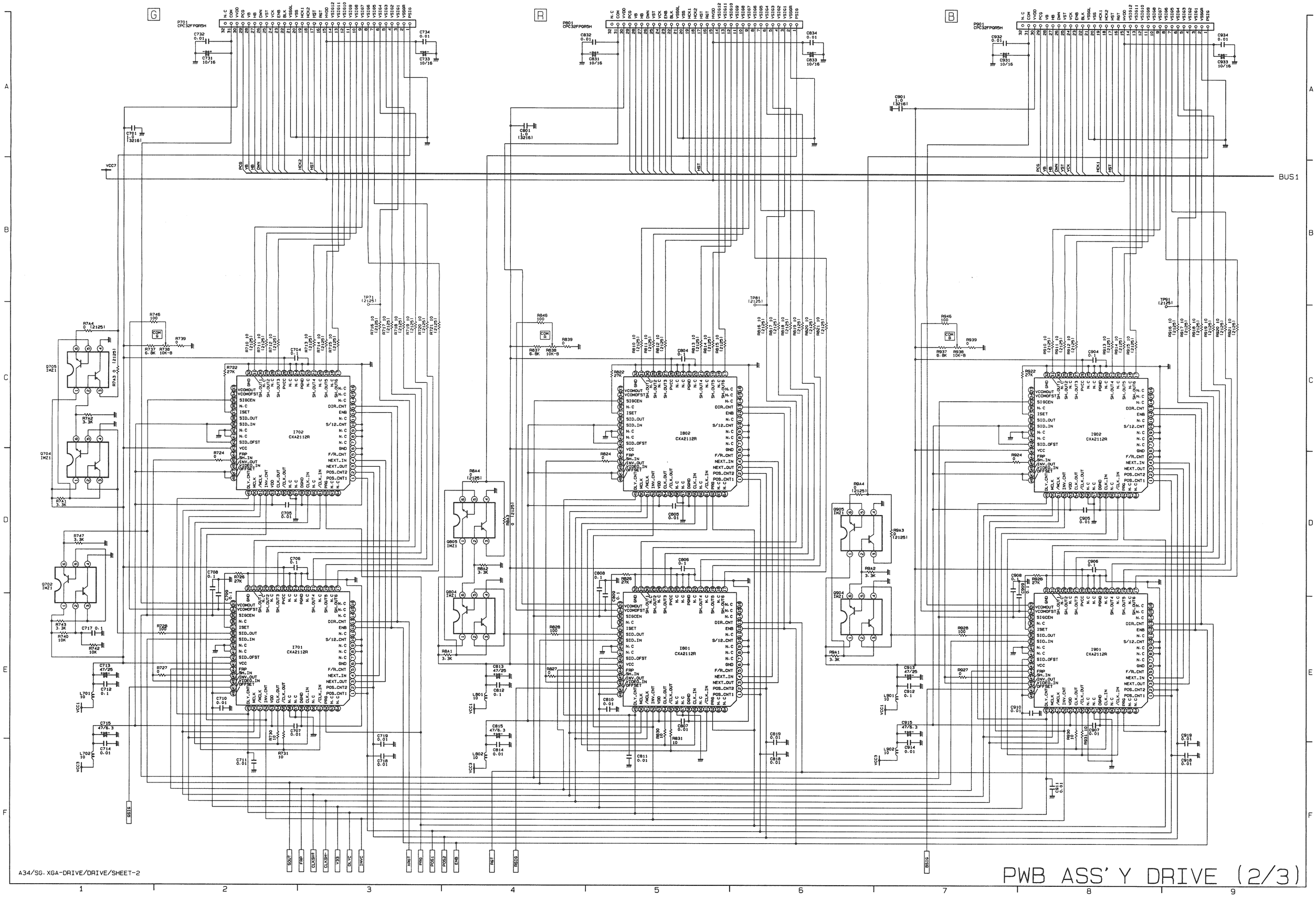
10. Basic circuit diagram




POWER UNIT (2/2)



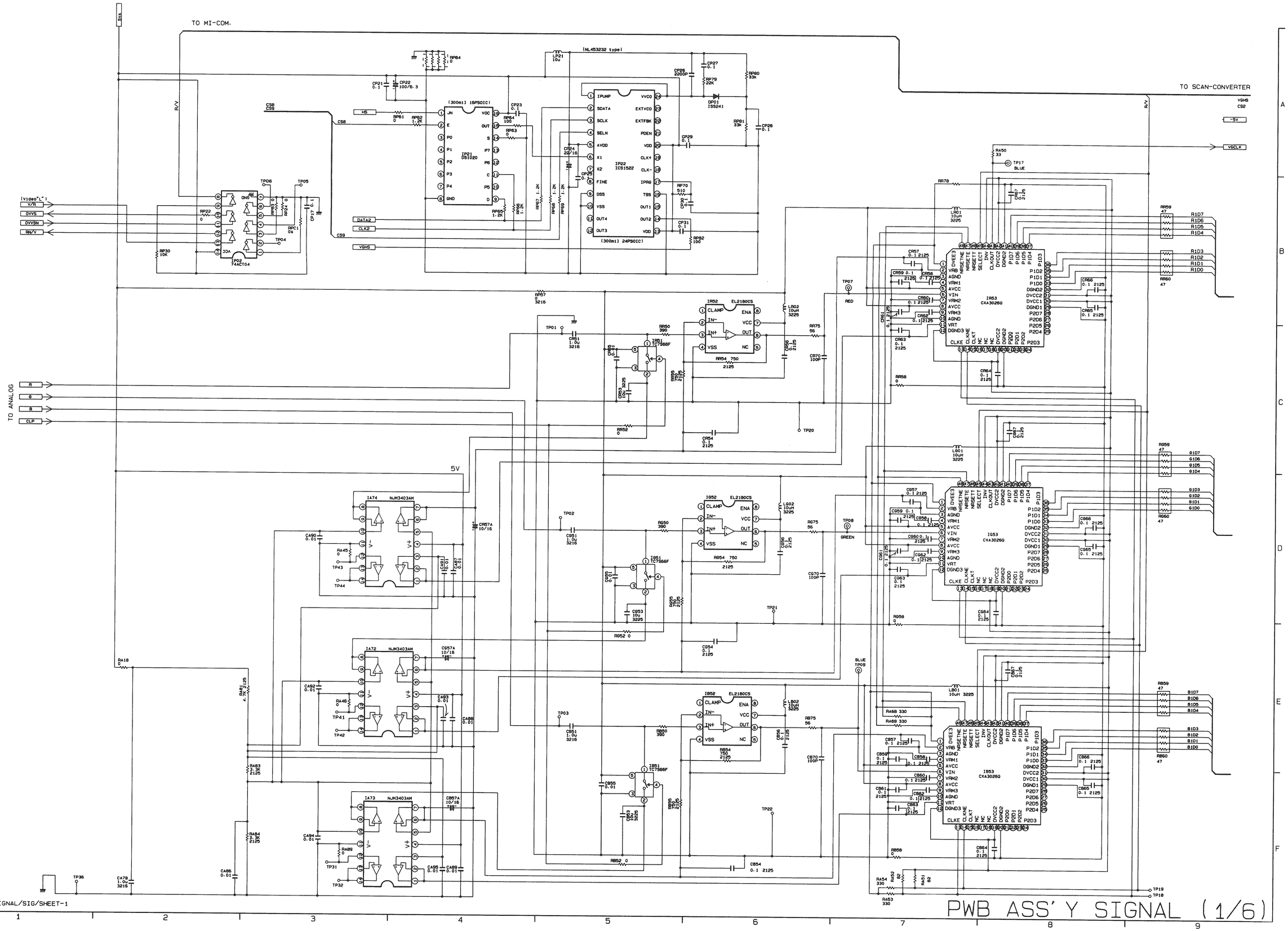
PWB ASS'Y DRIVE (1/3)



PWB ASS'Y DRIVE (2/3)

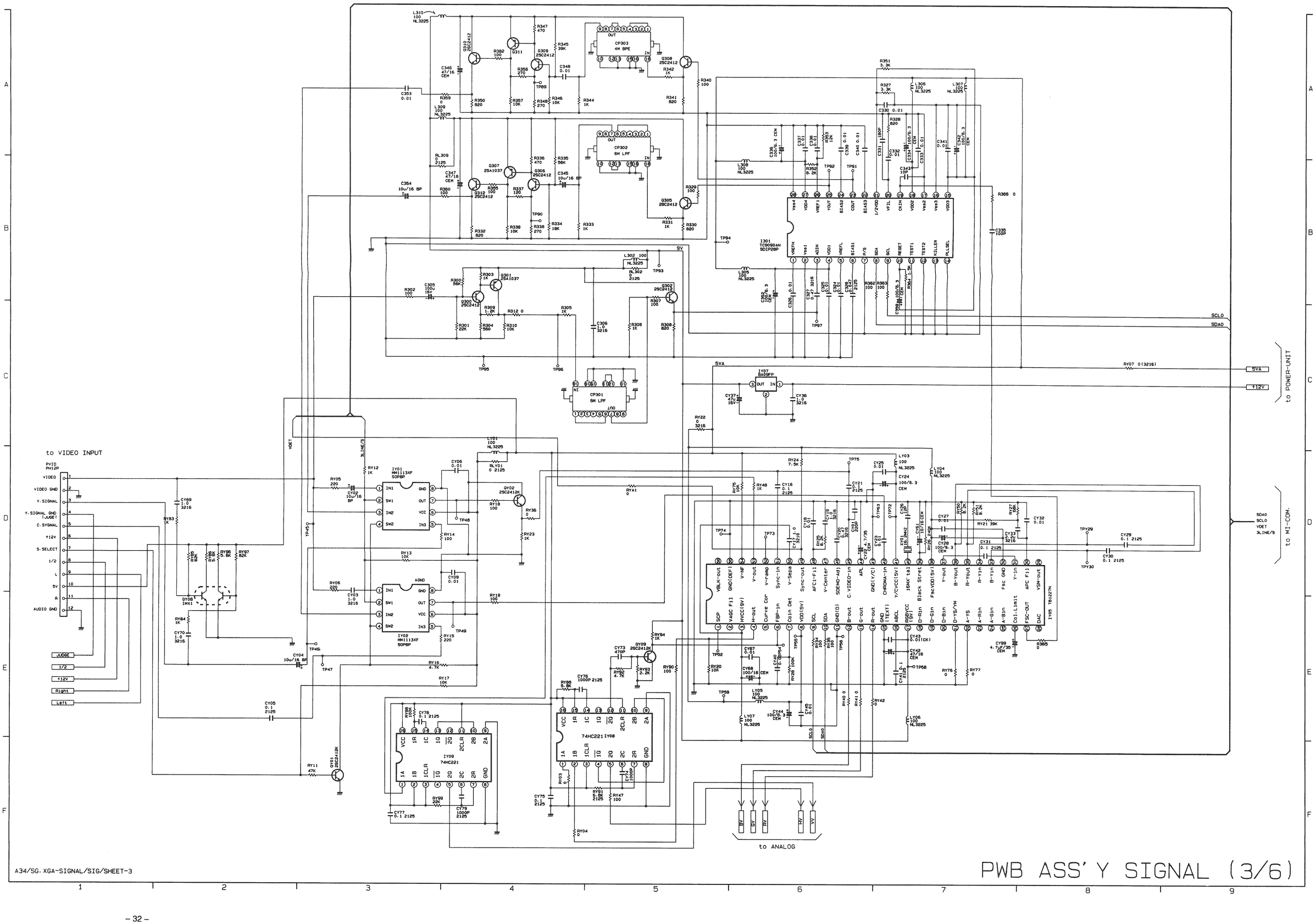
PWB ASS'Y DRIVE (3/3)

A34/SG.XGA-DRIVE/DRIVE/SHEET-3


TO MI-COM.
TO SCAN-CONVERTER
TO ANALOG
(NL453232 type)
(300mil) 16PSOIC
(300mil) 24PSOIC
IP21 DS1020
IP22 ICS1522
IP02 74HCT04
IA74 NJM3403AM
IA72 NJM3403AM
IA73 NJM3403AM
IR01 IC7S66F
IR02 EL2180CS
IR51 IC7S66F
IR52 EL2180CS
IR53 CXA3026Q
IG53 CXA3026Q
DP01 1SS241
TP17 BLUE
TP07 RED
TP08 GREEN
TP09 BLUE
A34/SG.XGA-SIGNAL/SIG/SHEET-1
PWB ASS'Y SIGNAL (1/6)

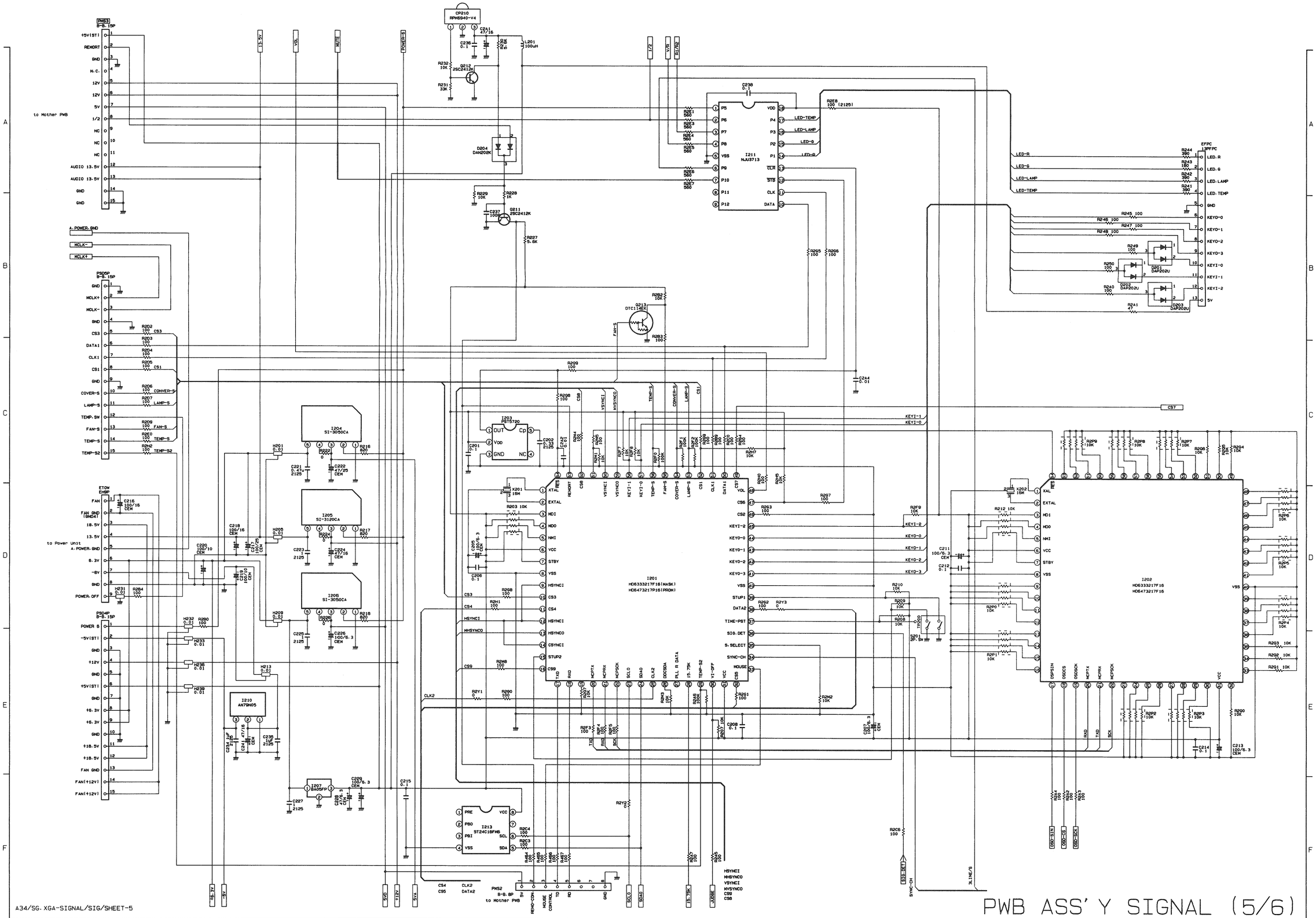
PWB ASS'Y SIGNAL (2/6)

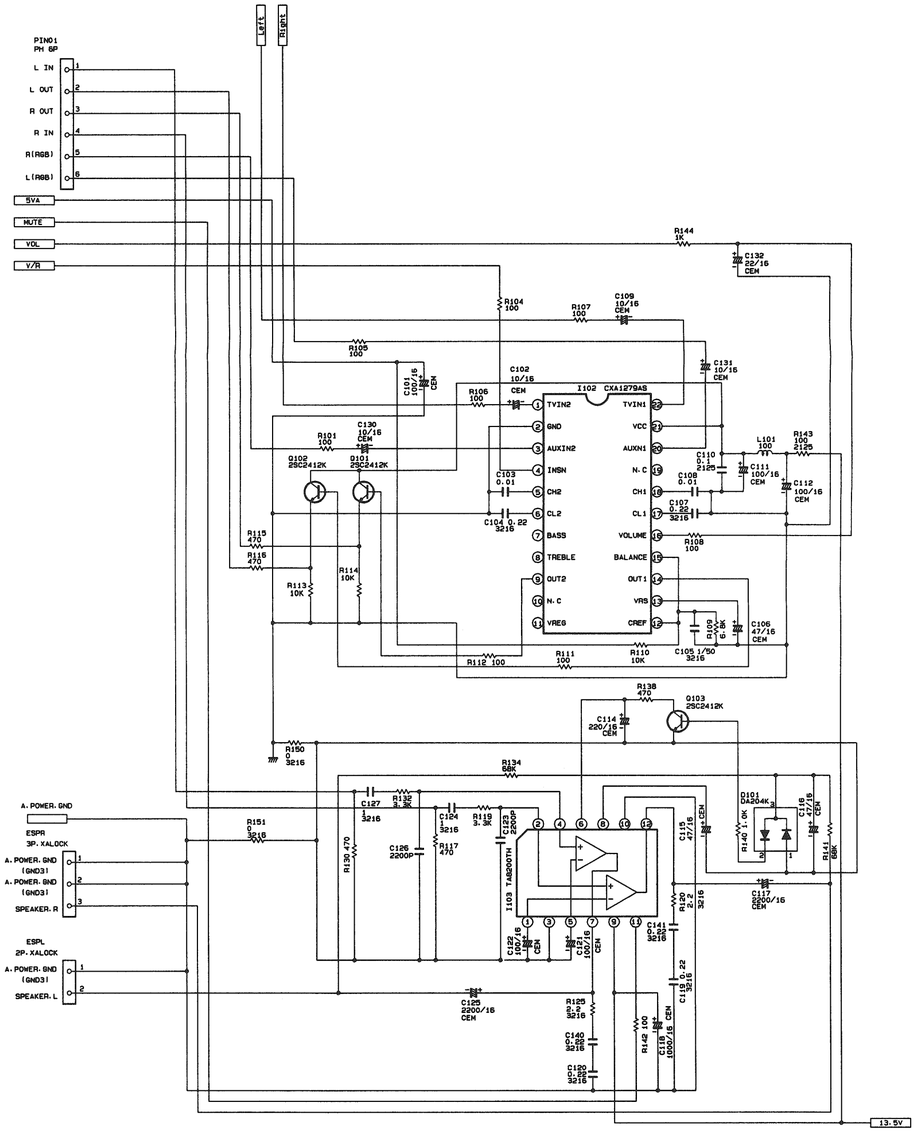
A34/SG.XGA-SIGNAL/SIG/SHEET-2


PWB ASS' Y SIGNAL (3/6)
A34/SG.XGA-SIGNAL/SIG/SHEET-3
to VIDEO INPUT
to POWER-UNIT
to MI-COM.
to ANALOG
I301 TC90090AN SDIP28P
IY01 TB1227N
IY02 MM1113XF SOP8P
IY03 74HC221
IY07 BA05FP
IY08 74HC221
CP301 6M LPF
CP302 6M LPF
CP303 4M BPE
SCLO
SDAO
5VA
+12V
9V
VIDEO
VIDEO GND
Y-SIGNAL
Y-SIGNAL GND (JUDGE)
C-SYGNAL
+12V
S-SELECT
1/2
L
5V
R
AUDIO GND
JUDGE
1/2
+12V
Right
Left
SDA0
SCLO
VDET
3LINE/S

PWB ASS'Y SIGNAL (4/6)

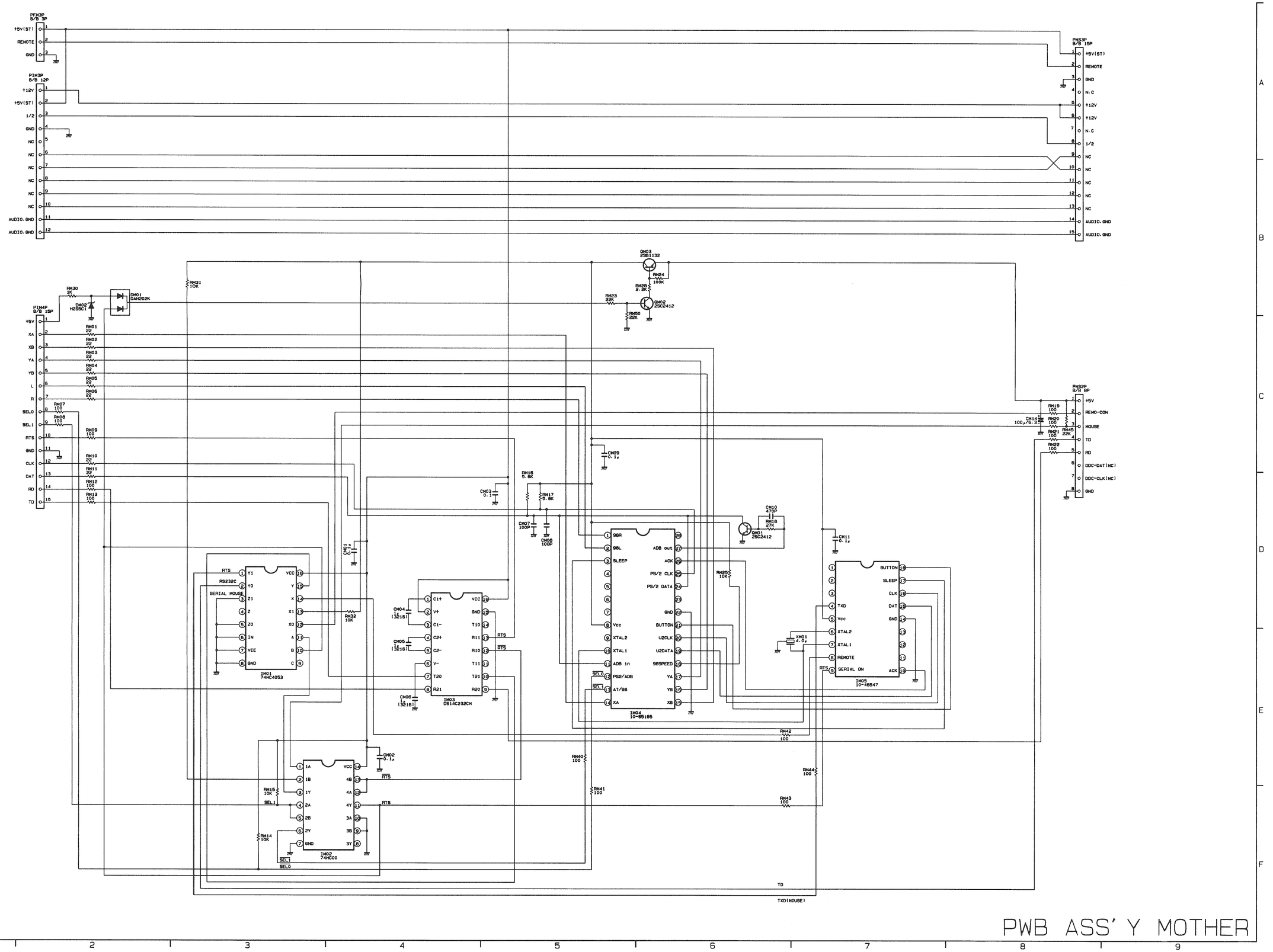
A34/SG.XGA-SIGNAL/SIG/SHEET-4


PWB ASS'Y SIGNAL (5/6)
A34/SG.XGA-SIGNAL/SIG/SHEET-5
to Mother PWB
to Power Unit
A.POWER.GND
I201 MD6333217F16(MASK) MD6473217F16(PROM)
I202 MD6333217F16 MD6473217F16
I211 NJU3713
I203 PST9720
I204 SI-3050CA
I205 SI-3120CA
I206 SI-3050CA
I207 BA05FP
I208 AN7805
I213 ST24C16FM6
Q211 2SC2412K
Q212 2SC2412K
Q213 DTC114EK
D201 DAP202U
D202 DAP202U
D203 DAP202U
D204 DAN202K
CP210 RPH6940-V4
PHS1 B-8.15P
PSCNP B-8.15P
PSCNP B-8.15P
PWS2 B-8.8P
EFPC 13PFPC
ETOW EHSP
SW201 DIP-SW
X201 16M
X202 16M
+5V(ST)
REMORT
AUDIO 13.5V
MCLK-
MCLK+
COVER-S
LAMP-S
TEMP.SW
FAN-S
TEMP-S
TEMP-S2
FAN(+12V)
POWER 8
-5V(ST)
+8.3V
+5.3V
+18.5V
POWER-OFF
LED-R
LED-G
LED-LAMP
LED-TEMP
KEYD-0
KEYD-1
KEYD-2
KEYD-3
KEYI-0
KEYI-1
KEYI-2
5V
13.5V
VOL
1/2
MUTE
POWER-S
VSYNCI
HSYNCI
MHSYNCO
CSYNCI
CLK2
DATA2
REMORT-CON
MOUSE CONTROL
SYNC-CH
3LINE/S
SIO.DET
TEMP-S2
FAN-S
TEMP-S
COVER-S
LAMP-S
CS1
CS7
CS9
CS8
CS6
CS4
CS3
DATA1
CLK1
SCL
SDA
RXD
TXD
SCK
VCC
VSS
GND
+8.3V
-8V
+12V
+5V
+5VS
+18.5V
15.75K
PLL R DATA
TEMP-S2
VT-OFF
OSDSIN
OSDCS
OSDSCK
MCPTX
MCPRX
MCPSCK



A34/SG.XGA-SIGNAL/SIG/SHEET-6

PWB ASS'Y SIGNAL (6/6)



A34/SG. XGA-SUB/MOTHER1

PWB ASS' Y MOTHER

PIM4
15P SOKET
TD RD DAT CLK GND RTS SEL1 SEL0 SW-R SW-L YB YA XB XA +5V
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

L093 101 L092 101 L091 101 L090 101 L089 101 L088 101 L087 101 L086 101 L085 101 L084 101 L083 101 L082 101 L081 101 L080 101
R093 100 R092 100 R091 100 R090 100 R089 100 R088 100 R087 100 R086 100 R085 100 R084 100 R083 100 R082 100 R081 100 R080 10

E004
15P DSUB
(♀2)

CONT IN

RGB IN1

E001
15P DSUB (female)
SCL SYNC GND V H SDA (+5V) NC B GND G GND R GND

C001 47/6.3 (BP) R009 75(D)
C002 47/6.3 (BP) R010 75(D)
C003 47/6.3 (BP) R011 75(D)
R003 1K R004 1K

C007 470P (SL) R015 470K

I001 BA7657F
B1_IN MD_DET G1_IN GND R1_IN GND B2_IN GND G2_IN GND R2_IN V1_IN
H1_IN H2_IN MD_OUT B_OUT VCC G_OUT GSYNC_IN COMP_OUT SELECT R_OUT VD_OUT V2_IN

R009 22 R01 22 R02 22 R03 22 R04 22 R05 22
R021 10 R022 10 R023 68K C008 1.5 (3216) R025 R026 2.2K
C010 47/6.3 C009 R028 3.3K R029 100 D001 DTC114EK
C017 47/6.3 (BP) C018 47/6.3 (BP) C019 47/6.3 (BP)

PSINP
11P PH(L)
RGB. R R. GND RGB. G G. GND RGB. B B. GND RGB. H. SYNC RGB. V. SYNC V. RET R1/R2 -5V(ST)

R030 10 R031 10 R032 10 R033 100 L001 101 R034 100 L002 101 R036 100 L004 103 L005 10uF C011 47/6.3

I002 SN74F1574NS
Sel 1A 1B 1Y 2A 2B 2Y GND
VCC Stn 4A 4B 4Y 3A 3B 3Y
R072 100 R073 100 R074 100 R075 100 R076 100 R077 100 C013 0.01

RGB IN2

E002
15P DSUB (female)
SCL SYNC GND V H SDA (+5V) NC B GND G GND R GND

C004 47/6.3 (BP) R012 75(D)
C005 47/6.3 (BP) R013 75(D)
C006 47/6.3 (BP) R014 75(D)
R007 1K R008 1K

I003 HD74LS04FP
1A 1Y 2A 2Y 3A 3Y GND
VCC 6A 6Y 5A 5Y 4A 4Y
C014 0.01 R039 0 R040 0

P1M3
11P SOKET
+12V +5V(ST) 1/2 GND NC NC NC NC NC AUDIO. GND AUDIO. GND

E000

A-RGB1 IN

E005
PJA3.5MM
R087 75 R088 75 R089 75
C044 1.0 (3216) C045 1.0 (3216)
R0C2 1K R0C3 1K R0B4 33K R0B5 56K R0B7 56K R0B3 3.3K R0A7 100 R0A6 100 R0A8 2.2K R0A5 3.3K R0A4 3.3K C043 47/16
Q004 FMW1 Q003 DTC114EK Q002 DTC114EK

A-RGB2 IN

E006
PJA3.5MM
R090 75 R091 75 R092 75
C046 1.0 (3216) C047 1.0 (3216)
R0C4 1K R0C5 1K R0C1 56K R0B9 56K R0B6 33K R0B1 100 R0A9 100 R0B2 2.2K R0B5 3.3K
Q005 FMW1

AUDIO OUT

E007
PJA3.5MM
C081 1.0 (3216) C082 1.0 (3216) C083 1.0 (3216) C084 1.0 (3216)
R0D1 470 R0D2 470 R0D3 100K R0D4 100K R0D5 100K R0D6 100K

RGB OUT

E003
15P DSUB (female)
SCL SYNC GND V H SDA (+5V) NC B GND G GND R GND

R052 220 R063 220 R064 220 R065 220
R066 75(D) R067 75(D) R068 75(D)
R071 100K R069 100K R070 100K
R053 75 R054 75 R055 75
R041 56
R045 47K R044 47K
D2 HZ6B2 D3 HZ6B2
C016 0.01
I004 24LC81A-I/SN
VCC VCLK SCL SDA NC NC NC VSS

R046 10K R047 10K R048 10K
R058 10 R057 1K (2125) R056 1K (2125) R059 1K (2125) R060 1K (2126) R053 1K (2125) R054 1K (2125) R049 1K R051 1K R050 1K R052 10
C021 (2125) C023 47/6.3 C020 0.1 (2125) C022 47/6.3
I005 OPA4658U
OUT1 1- 1+ +VS 2+ 2- OUT2
OUT4 4- 4+ -VS 3+ 3- OUT3

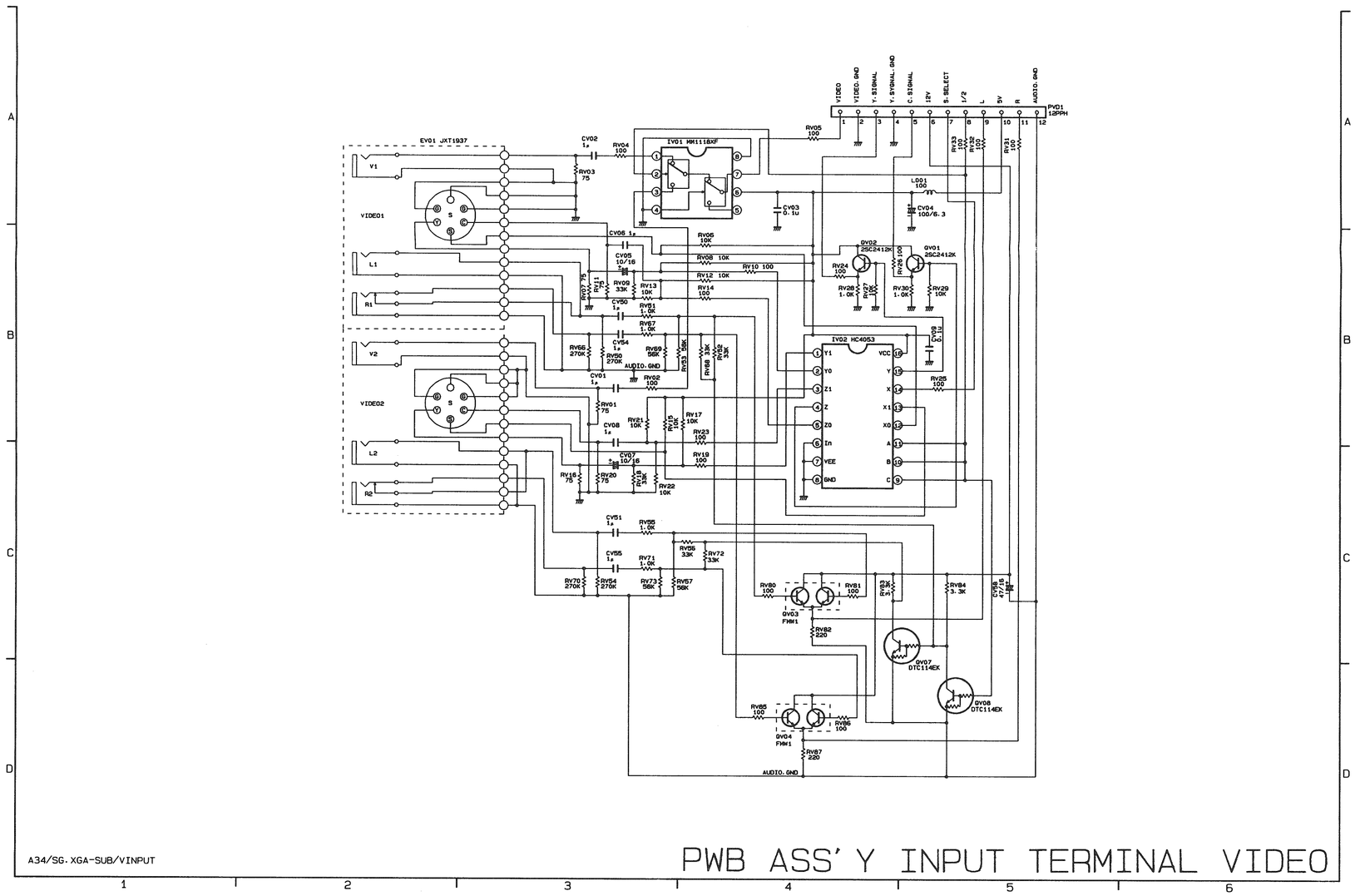
L006 10uF C042 47/6.3 C041 47/16 L007 10uF
R0A1 100 L008 103 R0A2 100 L009 101 R0A3 100 L010 101 L011 101 L012 101 L013 101 L014 101

P1A1
6P PH(L)
L(RGB) R(RGB) RIN ROUT LOUT LIN

AUDIO. GND

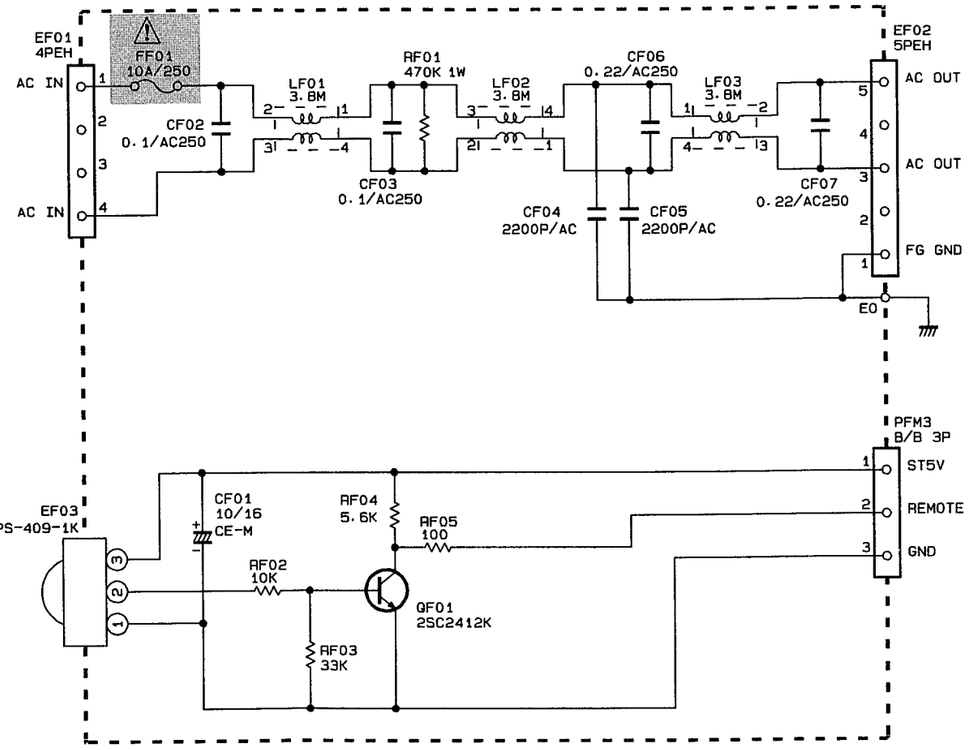
A34/SG. XGA-SUB/INPUT

PWB ASS'Y INPUT TERMINAL RGB



A34/SG.XGA-SUB/VINPUT

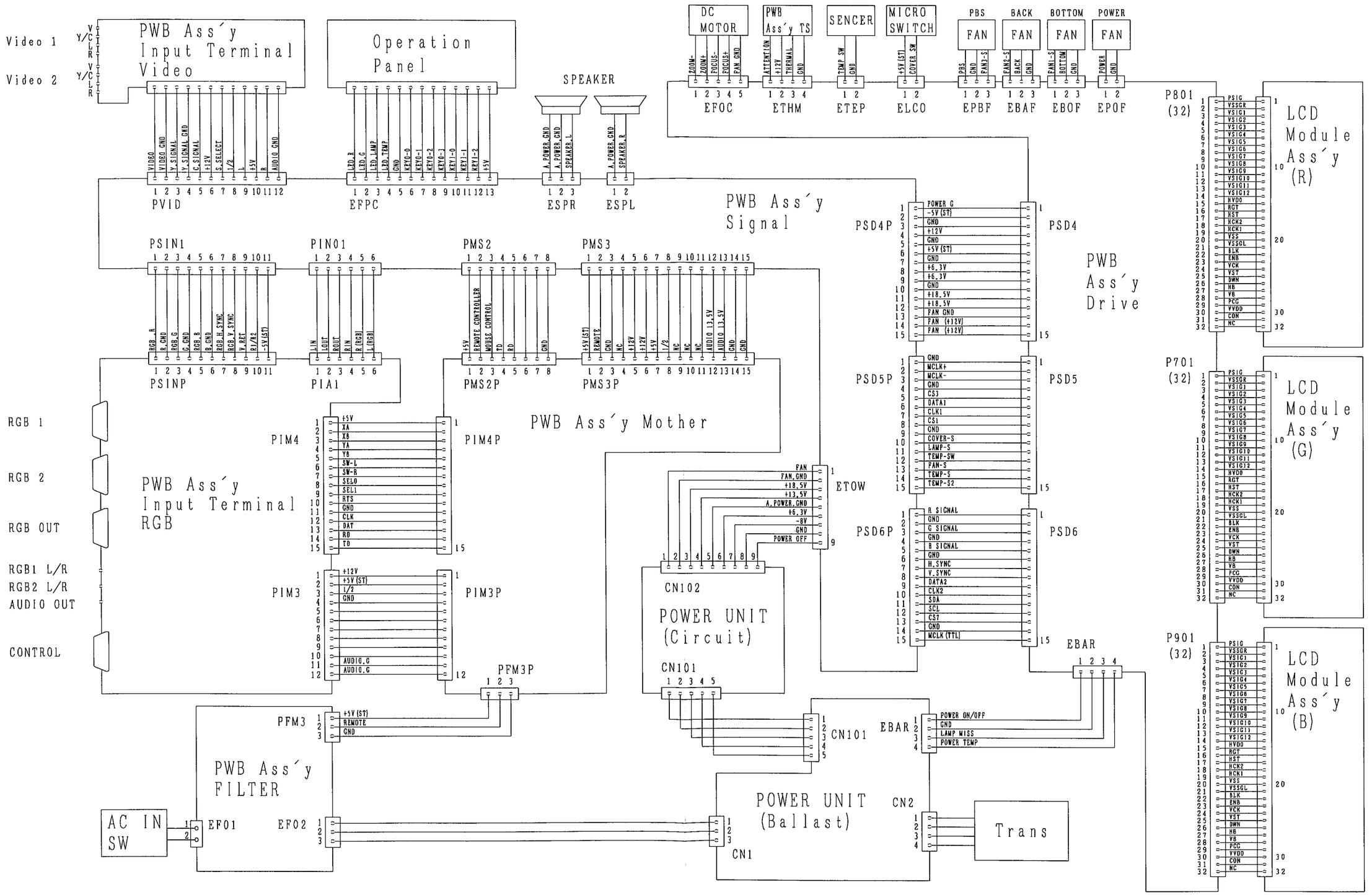
PWB ASS'Y INPUT TERMINAL VIDEO



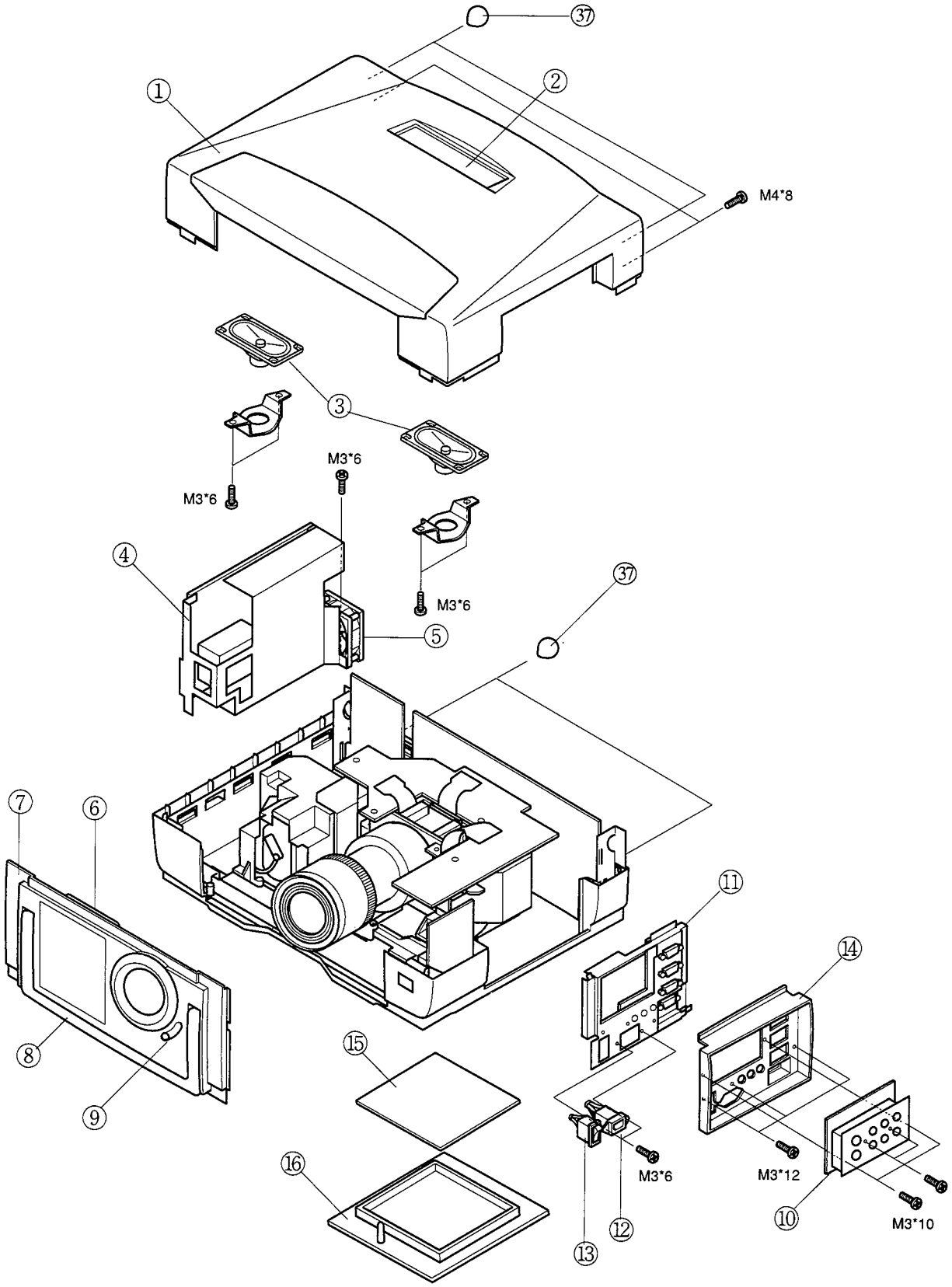
PWB ASS' Y FILTER

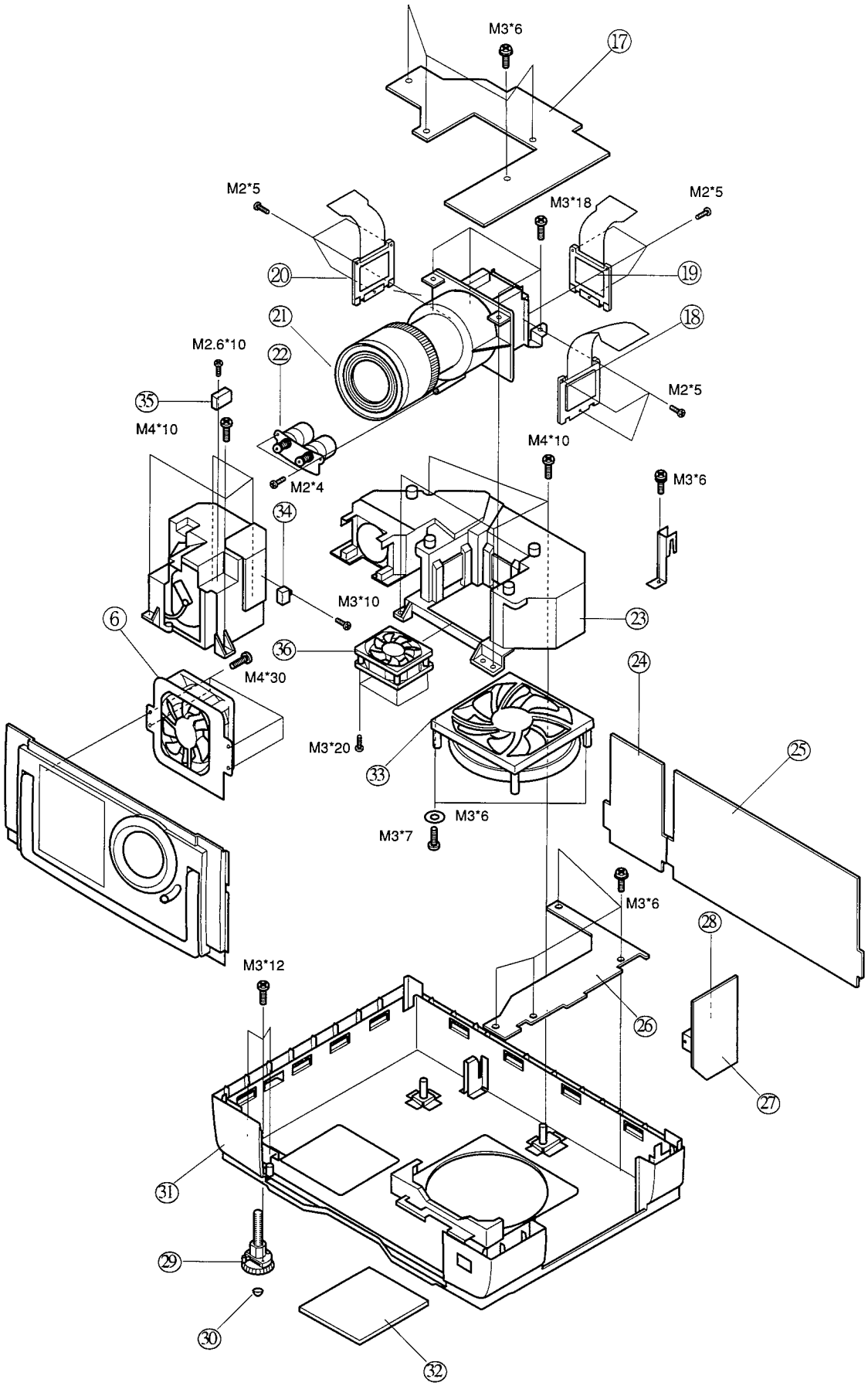
A34/SG.XGA-SUB/FILTER(100%)

11. Connector connection diagram



12. Disassembly diagram




M3*6
17
M2*5
M3*18
M2*5
20
19
21
18
M2.6*10
22
M2*5
35
M4*10
M4*10
M2*4
M3*6
34
M3*10
6
23
36
M4*30
24
M3*20
33
25
M3*7
M3*6
M3*6
28
M3*12
26
27
31
29
30
32

13. Replacement Parts list

REPLACEMENT PARTS LIST

PRODUCT SAFETY NOTE . Components marked with a ⚠ have special characteristics important to safety. Before replacing any of there components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PARTS NO.	DESCRIPTION	SYMBOL NO.	PARTS NO.	DESCRIPTION
1	QD06971	UPPER CASE ASS'Y	31	QD06981	BOTTOM CASE ASS'Y
2	HP00434	OPERATION PANEL SWITCH UNIT	32	QD05843	LAMP COVER
3	GK00251	SPEAKER (4 x 7)	33	GS00211	DC FAN (INTAKE) (4.6W DC)
4 ⚠	HA00541	POWER UNIT (BALLAST)	34	FU00252	THERMAL SENSOR SWITCH
5	GS00261	DC FAN (POWER) (2.04W DC)	35	FH00041	LIMIT SWITCH (MICRO SWITCH)
6	GS00151	DC FAN (EXHAUSTION)	36	GS00231	DC FAN (PBS) (1.56W DC)
7	QD04871	FRONT BEZEL ASS'Y	37	PE00061	RUBBER FOOT R
8	PV00171	HANDLE			
9	MD02681	LENS BARRIER UNIT		JP03218	PWB ASS'Y SENSOR
10	JP03215	PWB ASS'Y INPUT TERMINAL VIDEO	⚠	EV00891	POWER SUPPLY CORD (CONTINENTAL TYPE)
11	JP03216	PWB ASS'Y INPUT TERMINAL RGB	⚠	EV00861	POWER SUPPLY CORD (U.K. TYPE)
12 ⚠	EP00011	AC INLET WITH FILTER		EY00641	MAC ADAPTER (6SW)
13 ⚠	FH00033	POWER SWITCH		HL00891A	REMOTE CONTROL UNIT
14	QD04921	I/O HOLDER		EW05172	PS/2-2 MOUSE CABLE
15	MU00413	AIR FILTER B		EW05182	ADB-2 MOUSE CABLE
16	QD04738	FILTER COVER		EW04101	RGB-D CABLE (15PIN MALE TO 15PIN MALE)
17	JP02384	PWB ASS'Y DRIVE		NX02971	JIG
18	UX05582	LCD MODULE ASS'Y R		EW05192	SERIAL-2 MOUSE CABLE
19	UX05581	LCD MODULE ASS'Y G			
20	UX05583	LCD MODULE ASS'Y B			
21	KS01871	LENS PRISM ASS'Y			
22	GP00172	DC MOTOR ASS'Y			< ONLY CP-X955W >
23	UE05421	DICHROIC OPTICS UNIT	⚠	EV00881	POWER SUPPLY CORD (UL/CSA TYPE 125V)
24 ⚠	HA00531	POWER UNIT (CIRCUIT)		EW10933	CABLE. AV
25	JP03213B	PWB ASS'Y SIGNAL			
26	JP03217	PWB ASS'Y MOTHER			
27	JP03214	PWB ASS'Y FILTER			
28 ⚠	FN00141	FUSE 10A 250V			
29	QJ00235	ADJUST FOOT			
30	PE00051	RUBBER FOOT B			

HITACHI

CP-X955W YK No. 0490E Information & Image Systems Division
CP-X955E Yokohama Operation

QR28671

Printed in Japan (I